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# THE LARYNGOSCOPE

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DEVOTED TO DISEASES OF THE

## NOSE-THROAT-EAR.

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# THE LARYNGOSCOPE.

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## ANNOUNCEMENT.

The appearance of this issue marks the fifth anniversary of THE LARYNGOSCOPE in the field of medical journalism.

By strictly maintaining our policy to co-operate in the interests of progressive laryngology, rhinology and otology with the active literary workers at home and abroad, we feel that a permanent place has been established for our journal.

We are happy to again express our thanks and appreciation for the valuable services of our efficient editorial staff and collaborators, whose good work has so materially aided us in the many editorial difficulties arising in the conduct of the journal; to our many contributors whose original work has done so much to maintain a high literary standard; to our subscribers in every part of the world, the advance guard of progressive medicine, whose moral and financial support has enabled us to improve and strengthen our journal; to our advertising patrons who have recognized the influence and value of THE LARYNGOSCOPE as a legitimate medium to introduce their instruments and preparations to this class of the profession.

### Original Communications.

It shall be our endeavor to exercise a stricter supervision of our Department of Original Communications, as the character of this department is mainly responsible for the tone and literary standard of the journal. Our policy that "*original communications are received with the understanding that they are contributed exclusively to THE LARYNGOSCOPE*" will be rigidly observed.

**Society Proceedings.**

Much attention has been devoted to the improvement of this department, and we are now in a position to furnish our readers regularly, carefully reported proceedings of the Section on Laryngology and Rhinology of the New York Academy of Medicine, the London Laryngological Society, Berliner Laryngologische und Otologische Gesellschaft and the Societe Francaise d'Otologie, de Laryngologie et de Rhinologie. In addition to these frequently reported proceedings, we will also publish the proceedings of the various national and international special societies and sections in rhinology, laryngology and otology.

**Bibliography.**

Our most recent addition, the Bibliography Department, has proven a very acceptable feature. The good work of our editors and correspondents, and the resources of libraries and exchanges, have enabled us to make good our claim to publish a *complete* bibliography of laryngological, rhinological and otological literature. To medical writers and our contributors this department will soon prove to be invaluable as a practical working reference.

**Abstracts.**

Since the appearance of our Bibliography, the Department of Abstracts has been so modified that our staff now prepare abstracts only of papers and monographs of more than usual interest.

Briefly and simply, this constitutes the make-up of *THE LARYNGOSCOPE* to-day after it has passed through the formative stage. We believe that our foundation has been carefully constructed, and with the further co-operation of the many builders engaged with us, we hope to erect a substantial edifice, dedicated to the highest interests of progressive laryngology, rhinology and otology.

Among the innovations which we have arranged for the new volume, special mention must be made of the carefully prepared manuscript of Dr. Jonathan Wright, of Brooklyn, entitled, "The Nose and Throat in the History of Medicine." In his inimitable and graceful style, Dr. Wright will present a series of papers, published in successive numbers of *THE LARYNGOSCOPE*, in which these interesting historical data will be considered from the earliest periods to the present time. In his preface on the following page the author outlines the scope of his work, and we are pleased to have the opportunity of presenting this interesting and valuable history.

THE EDITOR.

## THE NOSE AND THROAT IN THE HISTORY OF MEDICINE.

BY JONATHAN WRIGHT, M.D., BROOKLYN, N. Y.

### PREFACE.

A few words may not be amiss in the way of preface to this history of the development of our knowledge of the nose and throat. No one can have engaged in any such laborious task as this without being painfully conscious at the last of the liability, nay, the probability that many errors of omission and commission will be noted by others in one's work. For these I can only solicit the reader's charity.

An attempt has been made to link together the story of the records of the nose and throat in medicine with the general drift of medical history, with the salient features in the early history of the civilization of mankind and with the general literature which has a bearing upon the central subject of the work; for, as Huxley has said: "Science and literature are not two things, but two sides of one thing." This has been done in constant fear of rendering my story too verbose and pedantic, but with the earnest hope of riveting the attention of the reader in a way which can not be attained in the routine preparation of an encyclopedia or a dictionary. I have also ventured to hope that the information thus laboriously offered will not, on account of its form, prove less accurate or extended because an attempt has been made to make it more attractive. If I have failed in realizing these ideals—and who ever fully succeeds?—I may comfort myself with the reflection that the labor expended in an attempt to attain them has been fully repaid by my pleasure in the work itself.

In the preparation of this work I have taken my notes chiefly from the original sources. In addition I have made use of many historical works both of medicine and of general literature. Among the former those of Sprengel (the French edition of his history), Baas (in English translation), Whittington, and especially Gordon Holmes' "History of the Progress of Laryngology," (*Med. Press and Circular*, July 15, seq. 1885), and Heyman's "Geschichte der Laryngologie und Rhinologie" in his "Handbuch;" among the latter those of Buckle, Guizot, Freeman, Draper, Lecky, Gibbon, Grote, Ranke, Prescott, Renan, and many others have been systematically read during the course of my work.

The space of a preface would not suffice for acknowledgment of indebtedness to all the works consulted.

## INTRODUCTION.

In every age there have been attempts to draw from the appearance of the countenance, especially from the shape and size of the nose, prognostications as to the mental and physical attributes of men; but although many are the rules laid down for the guidance of observers, they are of little value; for while doubtless the features tell their story to us occasionally, if we are close observers, in spite even of the modern and scientific treatises of Bell and of Darwin, the expressions are too fugacious and elusive to allow us to gather from them any reliable data as to the characteristics of the individual.

Physiognomy  
of the Nose.

No longer ago than 1820 we find it stated in a scientific work\* that "a long and pointed nose passes for a sign of sagacity. A short and blunt nose marks a simplicity of mind, easy to deceive and with very little foresight. A little nose, thin and movable, denotes a natural mocker. Large noses are an indication of heaviness, for they bespeak the lymphatic nature of the complexion. Twisted noses, they say, are a sign of an obliquity of mind; but an aquiline nose, large and muscular, announces force and courage; a flattened nose an inclination to luxury; in fact, it is thought there is a correspondence between the sexual organ and that part of the countenance."

"Nascitur ex labiis quantum sit virginis antrum  
Nascitur ex naso quanta sit hasta viri."

This is not a quotation drawn from a literature especially tainted with the ideas of Lavater.

On the testimony of Plutarch we learn that the Persians most admired the hawk-nosed type of man as resembling Cyrus, their best beloved king. This saying we find echoed in the sixteenth century by Riola† and Laurentius‡, the latter declaring, with how much truth I do not know, that the Egyptians in their hieroglyphs use the figure of a nose to designate a man. We may plainly see the type of Cyrus in Bellini's portrait of the Sultan Mohammed§. We learn from the Old Testament (Levit. XXI, 18) that there was a prejudice among the Patriarchs against flat-nosed people.

But in spite of these predilections of the Caucasian race we find among the native negroes and the Chinese different ideals as to the beauty of the nose. "The ancient Huns during the age of Attila

\* "Dict. des Sciences Medicales," Vol. XXXXII, P. 220.

† "Opera Omnia," 1610, Cap. LIII, De Naso.

‡ "L'Histoire Anatomique" Traduit, par Size, P. 1374; Ed. 1610.

§ This may be conveniently referred to in Mrs. Oliphant's "Makers of Venice."

were accustomed to flatten the noses of their infants with bandages for the sake of exaggerating a natural conformation. With the Tahitians to be called long-nosed is an insult and they compress the noses and foreheads of their children for the sake of beauty. So it is with the Malays of Sumatra, the Hottentots, certain negroes and the natives of Brazil."\*

In attempting to present an outline of the growth of our knowledge of the nose and throat and of their diseases, it must be remembered that a complete and intelligent review of the subject can not be obtained by beginning our study with the discovery or rather with the introduction of the use of the laryngoscope. That would be a consideration of the history of laryngoscopy and its sequelæ in the history of the diseases of the upper-air tract, and of the growth and development of technical skill. However great may have been the revolution wrought by Türk and Czermak in this field, the history of rhinology and laryngology begins not with the invention of the speculum and the laryngeal mirror, but with the earliest records of the civilization of man. In fact, it is reasonable to conjecture that it is only the lack of records which prevents us from tracing knowledge of the diseases of the nose and throat still further back into prehistoric times. It must necessarily be that any disease of the respiratory system causing obstructive dyspnea, or any affections causing deformity and discharge from the nose, would have attracted the attention of the medicine men of our primeval ancestors. Injuries to the head must, as frequently then as now, have involved the nasal organ. Indeed, we shall find in the very earliest Hindu and Greek records evidences of the care and attention devoted to the study of this branch of the medical art. We shall also find that to some extent the nose and nasal disease in the earliest times possessed proportionately a larger interest for medical men than it did in more recent and more enlightened times, until the beginning of the growth of what we are pleased to call Modern Rhinology. Exposed to accidental and intentional injury in the sports and wars of the ancients, mutilated by the deliberate acts of a cruel justice before the days of jails, or in the fierce outbursts of passion and revenge, traumatic conditions of the nose have occupied necessarily not only a very large place in the medical literature, but in the secular writings of former civilizations:

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\* Darwin's "Descent of Man," Part III, Chap. XIX.

"Atque hic Priamiden laniatum corpore toto  
Deiphobum vidit, lacerum crudeliter ora,  
Ora manusque ambas, populataque tempora raptis  
Auribus et truncas inhonesto volnere naris."

—VIRGIL, *Aeneis* VI, 494.

Innumerable colloquial phrases in all known tongues still testify to its importance as a symbolical figure of speech.

Etymology of  
Nose.

It would seem that the remarkable coincidence, pointed out by Hvorka\*, that the word "nose" has the same stem in all known European languages, might be explained, as he suggests, on phonetic principles, and it is very likely that the nasal resonance of the "n" followed by a vowel has had an influence in preserving the stem from radical changes, but it is difficult to see why, on this ground, the sibilant "s" should enter almost universally into the word. The following is the list of languages quoted by Hvorka in a little different sequence, with the accompanying word for nose:

Sanskrit .....	Nās	Danish .....	Noesen
Old Indian .....	Nāsā	Netherland .....	Neesen
Old Persian .....	Nāna	Modern German .....	Nase
Zendic .....	Nāonha	Old Slavonic .....	Nos
Hebraic .....	Nohar	Old Bulgaric .....	Nosŭ
Greek .....	πίς	Old Prussian .....	Nozy
Latin .....	Nasus	Lithuanian .....	Nosis
Italian .....	Naso	Lettic .....	Nasis
Spanish .....	Nariz	Bohemian .....	Nos
French .....	Nez	Polish .....	Nos
Gothic .....	Nasa	Polabian .....	Nūs
Old Norse .....	Nös	Upper and Lower Sorbian .....	Nos
Old German .....	Nasa	Russian .....	Nos
Middle German .....	Nase	Servian .....	Nos
Anglo-Saxon .....	Nose	Croatian .....	Nos
English .....	Nose	Slovenic .....	Nos
Swedish .....	Näsan		

It thus seems evident that there has been a direct transmission from the ancient Sanskrit of the word nose to the modern languages of Europe, one of the innumerable etymological evidences of the origin of our branch of the human race. If we look at a photograph of a miscellaneous group of natives of Calcutta or Bombay, and then glance out of the window at the pedestrians along Broadway or the Strand, we will note that not only the word has been transmitted, but the characteristics of the feature for which it stands.

It may not be without interest in this connection to supplement Hvorka's investigations by examining other languages having no known affiliation with the so-called Aryan stock:

\* Hvorka: "Die Acussere Nase." 1893.



Chinese .....	Pe
Japanese.....	Hana
Congolese (Africa).....	Djolo
Mexican (Nahaute).....	Yacatl

## SOUTH AMERICAN INDIANS.

Aymara.....	Nasa
Moxas.....	Nusiri
Incas (Quichua).....	Seneca

## NORTH AMERICAN INDIANS.

Cree.....	Miskiwan
Lenape (Delaware).....	Wikiwan
Onondaga.....	Onionchia
Chinook.....	Bekats
Clallam (Wash. Territory).....	Nuk'su

A number of vocabularies of other North American languages show no such conformity as the European languages: There is, however, as will be seen, a suggestion of a common derivation of the word even as between the tongues of the three continents (Europe, Asia, America), but it would lead us too far astray to pursue the question further. It will be noted that the persistence of the nasal "n" and the sibilant "s" is not so marked in the languages of the non-Aryan races of the world.

## THE NOSE AND THROAT IN MEDICAL HISTORY.

## EGYPTIAN MEDICINE.



IN a volume published from the unfinished manuscript of A. Mariette Bey, entitled "Les Mastabas de l'Ancienne Empire,"\* among many others is a fac-simile of a drawing on a slab found in the tombs of one of the old Egyptian kings. The grave in which the slab was found is said to date back to the fifth dynasty, a matter of 3500 years before the birth of Christ. On the slab is the delineation of a physician and his wife with her hand resting affectionately on his shoulder. He was the medical attendant of King Sahura and his name was Sekhet'enanch, but what the name of his wife was does not appear. It is said to have been everywhere erased from the tablets. What subsequent domestic infelicity this may hint at does not appear. Edward Meyer in his "Geschichte des Alten Ägyptens" (II, P. 95) translates some of the

The First Physician.

\* On Plate D 12.

inscription relating to the physician in such a manner that it appears the king had ordered it to be engraved as a testimony of gratitude to his doctor because he had "made his nostrils well." He wishes him, therefore, long life and happiness. This tablet had formerly been set up in the king's palace in an ante-room where all might see and read. We see hereby not only the antiquity of medicine, but also the antiquity of certain propensities which have not yet disappeared, so the uncharitable say, from the activities of its devotees; for we read further in Meyer's text that this method of recompense was suggested to the king by Sekhet'enanch himself. Truly "Vita brevis, ars longa." However, it does not appear that this early practitioner of medicine and violator of medical ethics was necessarily a rhinologist, for the word "nose" in this place, according to the translator, seems to have signified "breath of life." This, of course, makes the meaning of the passage very indefinite. It is an indication, however, that five thousand years ago they recognized the nose as belonging to the respiratory system, a fact to which it has frequently been necessary to draw attention in later, and we are fain to believe more enlightened times. Voltolini\* has quoted Moses for authority (Genesis II, 6), that the nose was recognized as an organ of the respiratory apparatus when the "Lord God formed man of the dust of the ground and breathed into his nostrils the breath of life."

Specialists in  
Egypt.

This reference and several others in the Sacred Writings point directly to the nostrils as emblematical of life and of the soul. It is not at all improbable that this figure of speech had its origin in Egypt where the nostrils were the route by which the contents of the cerebral cavity were extracted in the more expensive methods of the universal practice of embalming the dead. The exodus of the people of Israel from Egypt is said to have taken place at a date subsequent to that ascribed to the compilation of the "Papyrus Ebers" (1550 B. C.) As to the possibility of Sekhet'enanch having really been a rhinologist we are supported only by a single historical reference. Herodotus (II, 84) makes a very positive statement as to specialization in Egyptian medicine, but makes no reference to rhinology, unless we suppose reference to the head to include affections of the nose and throat. The passage reads in Rawlinson's Translation (Vol. II, P. 136) thus: "Medicine is practiced among them on a plan of separation; each physician treats a single disease and no more; thus the country swarms with

\* "Die Krankheiten der Nase," 1888.

medical practitioners, some undertaking to cure diseases of the eye, others of the head, others again of the teeth, others of the intestines, and some those which are not local." "ἡ δὲ ἰητρικὴ κατὰ τὰδε σφ' δίδασται· μῆς νοῦσον ἕκαστος ἰητρός ἐστι καὶ οὐ πλεόνων· πάντα δ' ἰητρῶν ἐστί· πλᾶ· οἱ μὲν γὰρ οφθαλμῶν ἰητροὶ κατεστᾶσι, οἱ δὲ κεφαλῆς, οἱ δὲ ὀδόντων, οἱ δὲ τῶν κατὰ νηδύν, οἱ δὲ τῶν ἀφανέων νούσεων."

Maspero\* and Erman† are both inclined to believe that Herodotus somewhat exaggerated the extent to which the specialization of medicine was carried in ancient Egypt, but Montaigne, that garrulous and delightful old French classic, not only credited the statement of Herodotus but approved of it, for he says:‡ "The Egyptians were right in neglecting the general calling of physician and of dividing the profession; for each illness, for each part of the body, there was an attendant, and therefore each part was more skillfully and less blindly treated, because they studied each one specially."

It has been conjectured that this specialization of medicine in Egypt, when at the height of her civilization, was due to the same causes which have produced it to-day. The teeming population, in the fertile, irrigated valley of the Nile, dwelt largely in cities§ and these enormous aggregations of population, which is the striking phenomenon of modern civilization, furnish the only conditions under which such subdivision of the arts and sciences is possible. The whole matter, however, resting as it does upon this passage in Herodotus, is involved in much doubt and uncertainty. ¶

\* Maspero: "Dawn of Civilization."

† Erman: "Life in Ancient Egypt."

‡ Montaigne: *Essais*, Livre II, Cap. XXXVII.

§ Egypt in the time of Herodotus contained from eighteen to twenty thousand cities. Under the successors of Alexander it is said to have contained thirty thousand towns. (Baas.) There were so many physicians in Egypt that Homer declared, perhaps as an early instance of poetic license, they were all physicians.

¶ The statement by Von Klein (*Journ. Amer. Med. Association*, December 18, 1886), that Cyrus, the Persian King, sent to Egypt for a rhinologist to relieve him of a nasal polypus, is not to be found in Herodotus, Xenophon or Strabo, nor in any modern work on Antiquities of Ancient Egypt at my disposal, although I have not only carefully searched his references, but many others, modern and ancient, for a record of the fact. Since in quoting Herodotus he adds "nose" after "head" to the historians' category of special fields of medical practice and states that the most skillful operators were those who learned anatomy by practice in pulling the brain out of the nose in the process of embalming, he seems to have possessed sources of information in our time not accessible to Herodotus in his, as to Egyptian medicine. It is misleading, however, and embarrassing to other historians to insert such information in what is apparently a quotation. Cyrus sent for an eye doctor out of Egypt (Herod. III, 1) and Darius (Ibid. III, 129) made use of one of his captives, the Greek physician Democedes, to cure him of a sprain, but there is no mention of a nose doctor which I can find. Democedes, by the way, was the first physician of whose life and adventures we have a trustworthy record, and his romantic and interesting story is graphically told by the Father of History. He lived 490-430 years before Christ, and was paid fabulous prices for his services not only by the Persian King but by his countrymen.

The "Papyrus  
Ebers."

Whether these old Egyptians had specialists or not, it is evident from the "Papyrus Ebers" that they had physicians who observed and knew how to treat diseases of the nose and throat after a fashion. This "Papyrus" is the earliest of all books on medicine and is said to have been compiled about 1550 years before Christ\*, but even the date of its compilation is somewhat conjectural, while that of its origin is wholly so. It is supposed by some to be merely a book on pharmacology, but as its learned translator† has stated, it is more than that, for near the end it deals with anatomy, physiology, pathology and surgery. In spite of the practice of embalming, anatomy was evidently largely a matter of fancy with these early doctors, and gave no promise of the great development which the Greeks under the Ptolomies, in the future city of Alexandria, a thousand years later, were to bring about in it. We read, page 181, "There are four vessels in both nostrils of which two carry blood and two carry mucus." In physiology 'they were scarcely less at sea, for when the air once entered the nose they lost track of it. "It goes to the heart and the rectum," says the author of the "Papyrus," a few lines further on. It is evident that tumors of the neck, both tubercular glands and goitre, were well known and as little understood. It must be remembered, however, that the translation is often uncertain and that it is impossible for us to comprehend exactly what they meant even when the equivalents of their hieroglyphics are selected in the modern languages. "If thou findest in his throat a fatty tumor (?) and it appears like an abscess of the flesh, which can be reached by the fingers, thou must say thereto, 'he has a fatty tumor in his throat; I will treat the disease with a knife, taking care of the (blood) vessels.' " They were apparently very chary of surgical procedures, and even in this place it is uncertain from the translation whether the author does not really give preference to ointments and cataplasms, for which he gives a number of scarcely recognizable prescriptions.

We will find in the "Zend Avesta" that the surgeon must first thrice essay his skill upon a slave or a lower caste of man before operating on their betters. Let us think of our hospitals and dispensaries and refrain from unkind criticism. If they neglected to do this they operated at the peril of their lives on the high caste man. Such a penalty was calculated to encourage conservatism if it obtained in old Egypt as well as in Chaldea.

\* Moses brought Israel out of Egypt 1300 years before Christ, and hence, according to these computations, 250 years after the compilation of the "Papyrus Ebers."

† Dr. Med. H. Joachim, Berlin, 1890.

## CHALDEAN MEDICINE.

Closely allied with Egyptian civilization was that of the Chaldeans and the Assyrians, but scarcely any notice has come down to us of their medical attainments beyond the records of magic, \* the incantations and the invocations of good and evil spirits, which would indicate that our art among them was about on a level with that of the American Indians. In the satires of Juvenal we find Chaldean magic much cultivated by the decadent social world of Rome against which he aimed his shafts.

"Chaldeis sed major erit fiducia; quicquid  
Dixerat astrologus, credent a fonte relatum  
Hammonis." (VI. 552.)

In the popularity of theosophy and the mind cure and the faith cure we have in our day a parallel to the condition at Rome so far as the mystic influences of the Far East are concerned.

It is impossible for us to stretch our credulity to the point of believing Herodotus when he asserts that the Babylonians had no physicians, but depended on the wisdom of the market place, where the patients were exposed for the benefit of the comments of passers-by. Familiarity with human nature compels us to believe that even if they possessed no medical knowledge they must have possessed men who pretended to it, and others who believed in their assertions, for as Celsus remarked, "*Medicina nusquam non est.*"

According to Sayce (Hibbert Lectures, 1887, P. 84,) dog's flesh and the ordure of animals were among Chaldean medicaments, and such things we find in abundance in the "Papyros Ebers." These disgusting drugs we will again find recommended in the works of Galen, Aetius and Oribasius, among those prescribed internally and even for internal local applications in throat disease. We can perhaps therefore understand Juvenal's objections to the Chaldeans, and we may see from his mention how these articles crept into the later medical writings of the Roman Empire and subsequently appeared among the drugs of the Middle Ages, thus transferred from the Plains of Mesopotamia to the banks of the Rhine and the Thames. The belief in the efficacy of precious stones as medicaments is first found in the accounts of Babylonian medicine and existed far into the Renaissance as costly articles of the *Pharmacopœia*.

\* Some one paraphrasing Pliny has said: "Magic was the offspring of medicine, and after having fortified itself with the shield of Astrology it borrowed all its splendor and authority from religion." See Pliny: Hist. Nat. Lib., XXX, Cap. 1-2.

Witch Medi-  
cine.

Mysterious invocations, gruesome and disgusting prescriptions occupy a prominent place in all records of primitive medicine, but apparently these with the cabalistic use of figures and signs have long lingered in the records of medicine and in literature as the heirlooms of Chaldean sorcery. The Faust legend\* is full of them. The Walpurgisnacht in Goethe's "Faust" has a distinctly Chaldean flavor, not pleasant but weird. We recall the dark cave in "Macbeth," where the witches' prescription is compounded:

"Fillet of a fenny snake  
In the cauldron boil and bake;  
Eye of newt and toe of frog,  
Wool of bat and tongue of dog,  
Adder's fork and blind worm's sting,  
Lizard's leg and owlet's wing."

The same Chaldean prescription is found in Horace, where the foul witch Canidea orders:

"Et uncta turpis ova ranæ sanguine  
Plumamque nocturnæ strigis,  
Herbasque quas Iolcos atque Hiberia  
Mittit venenorum ferax,  
Et ossa ab ore rapta jejunæ canis  
Flammis aduri Colchicis."

—HORATII FLACCI EPODON, Liber 5, V. 19 Seq.

The Therapy  
of the Magi.

These are merely Babylonian or Egyptian prescriptions in meter. Pliny (Hist. Nat. Lib. XXX), who believed that he would be able to include all the wisdom of the world in his histories, has left behind him some curious information as to therapeutics derived from Chaldean or Oriental sources. He may be held up as a terrible example to the gentlemen who still believe that even now the whole field of medical science does not offer too wide a scope for their mental powers. "I find," says he, "that a cold is checked if any one will kiss the nostrils of a mule." "Inflammation of the fauces and the pain will be cured by the dung of kids before they have tasted grass, if it is dried in the shade." "Gargling with the milk of a sheep helps the tonsils and fauces." "Anginas are helped by a goose's gall mixed with elaterium and honey—by the brain of an owl, by the ashes of a swallow soaked in hot water. Ovid is the author of this medicament." These suggestions are taken at random and do not exhaust the supply of therapeutical measures for nose and throat diseases, which were derived from the Magi by Pliny, to whom I would respectfully refer those curious in regard to or desirous of profiting by such

\* "Faust in der Geschichte und Tradition." Kieseewetter, Leipsic, 1893.



garnered wisdom. Such things still are to be found in the folk-medicine of rural communities to a surprising extent. These relics of this peculiar phase of medical history are still with us, but we have but little direct knowledge of Chaldean medicine, although Sayce has lately partly deciphered "An Ancient Babylonian Work of Medicine."<sup>\*</sup>

For some mysterious reason Egyptian civilization, and with it Egyptian medicine, was at a standstill for many centuries before the downfall of the Oriental dynasties. At a later period we see the same phenomenon among the Hindus. Although the Greeks apparently derived at least the foundation of their learning from these sources, they were far in advance of them when the generals of Alexander (330 B. C.) established his empire over Asia. Even in the time of Xenophon (401 B. C.), two generations earlier, the Persian monarchs were surrounded by Greek physicians whom they brought to their courts, usually by profuse pecuniary inducements, but not infrequently by force and by kidnapping. It was Ctesias, a Greek physician and historian, who treated the wound, and is said to have saved the life of Artaxerxes when he was left for dead by many of his native followers on the battlefield of Cunaxa, where he so nearly lost his crown to his brother, Cyrus the Younger, who was subsequently himself killed in this battle.<sup>†</sup> Now, more than a hundred years before this we have seen that Cyrus the Great (559-529 B. C.) sent to Egypt for a physician for the eyes, while Darius (521-486 B. C.), one of his immediate successors, made use of Democedes, the Greek, in preference to native and Egyptian court physicians.

I do not know whether this sequence of historical events in medicine has any great value, but, in connection with other facts, it is perhaps significant of the shifting of medical knowledge.

#### THE MEDICINE OF THE PARSEES.

If we have not already had sufficient glimpses of Chaldean and Assyrian medicine we have only to glance through the "Zend-Avesta,"<sup>‡</sup> the Sacred book of the Parsees, to understand the reluctance of their monarchs to avail themselves of home talent. The remedies of the ancient Parsees consisted chiefly of charms and spells. They divided medical practitioners into three groups: Those who healed with the knife, those who used herbs, and those who practiced spells and incantations, and the "Zend-Avesta" rec-

<sup>\*</sup> "Zeitschrift für Keilschriftforschung," II, 1-3.

<sup>†</sup> Xenophon: "Anabasis I," VIII. 27. Plutarch: "Life of Artaxerxes."

<sup>‡</sup> Darmstetter: "Sacred Books of the East," Vol. IV, Part 1.

ommends the latter class, not an anomalous proceeding in ecclesiastical advice of later time as well, but it gives, perhaps, a very good reason, viz.: They were apparently the least to be feared. We learn that one of their evil deities created 99,999 diseases with which to plague mankind. Out of this large number we find no mention of those of the upper-air passages, nor of any other differentiation that is intelligible to us.

#### THE MEDICINE OF THE "TALMUD."

There are a number of modern treatises upon the medical knowledge of the "Talmud," but a perusal of them, while it reveals a perhaps interesting state of early Hebrew sanitary science, does not give us much insight into their knowledge of diseases of the nose and throat. There are several references\* to acute inflammations of the throat which seem to bespeak the existence among the Babylonian Jews of diphtheria, or of that disease described later by Aretaeus as Syriac ulcer, from which "they died the most terrible death of all" the 903 deaths possible. This passage reminds one of the mention of the number of diseases in the "Zend-Avesta." We are still further reminded of Chaldean medicine by the incantations spoken of as therapeutic measures, of demons as etiological factors in fatal throat inflammations, and of the dung of a white dog mixed with myrrh as a local throat application in cases of coryza. Cynanche and "tumor of the palate" (apparently quinsy) are also mentioned.

In the *Mischna*† (Fol. 42) we learn that transverse division of the trachea is fatal, but (Holin, Fol. 45) that longitudinal section is not, if there remains an unsevered portion at the top and bottom. In the "Ghemara" (Holin, Fol. 57) it is stated that a hole in the trachea may be stopped by an artificial contrivance. It appears that they learned these facts from their sacrificial practice on animals. In the "Kethubot" treatise occurs this passage: "Samuel says that the polyp shows itself by a bad smell of the nose. A 'beraitha' says the odor comes from the mouth." Evidently Samuel and the "beraitha" meant *ozena*, although in a footnote the translator seems to think otherwise.‡

\* "Die Medizin der Talmudisten," Bergel, 1885, pp. 33, 37, 42, 51.

† "La Medizin du Talmud." Rabbinowitz.

‡ Being entirely ignorant of Hebrew and Sanskrit I have had to rely on the authority of translations which have been sharply criticised, but I have taken some pains to verify the above extracts from the "Talmud." The Jews are said, I know not on what authority, to have been ignorant of medicine until their introduction into Egypt.

## HINDOO MEDICIN.

When we begin to search the writings of the ancient Hindus we enter a mysterious realm full of surprises, finding therein many medical facts which seem to belong to a later period of the evolution of the art. Finding these at a date many centuries before the beginning of the records of the Greeks vouches by itself for the remoteness of the beginning of Hindu civilization. That their writings are, some of them, of immense antiquity seems evident, and that they are the origin of much which is to be found in the later scientific literature of the Greeks seems very probable, for it is unreasonable to suppose that Greek civilization was as indigenous as they claimed both for it and for their race. Whatever was the origin of the Hellenic tribes, it is becoming yearly more evident with the advance in archæological knowledge that their learning was transplanted at a comparatively high state of development from the land of the lotus flower, and in all probability from that mysterious tableland of Central Asia, the roof of the world, through the peoples which dwelt along the Ganges and the Euphrates to the shores of the Ægean; but while at its source scientific knowledge seems to have stood still in historical times, it has blossomed in other soil to the fruition we now enjoy. It may be conjectured that the reason for this non-progressive character of the knowledge of the Oriental lies in racial characteristics, and yet it is difficult from our ignorance of their history to understand why this halt in the evolution of their knowledge should have occurred after it had grown to the proportions we recognize in the "Susruta." \*The contention of Hass † a German critic, that the writings of the Hindus show that they have never been a progressive race, but that they had borrowed their knowledge from the Greeks without developing it, is plausible when we consider how eagerly the Persian monarchs sought medical aid from that source rather than from the East. The Hindus, however, were further removed from the Persian monarchs than were the Greek cities of Asia Minor, which indeed formed a part of their empire. Perhaps the strongest argument against this assumption is the fact that the same non-progressiveness is seen in Egyptian civilization, and yet the "Papyros Ebers" and other evidences prove that a comparatively high state of

\* Guizot and Freeman both ascribe the stationary condition of Eastern civilization to the union of the temporal and spiritual powers, but this scarcely satisfies us, and while admitting the strong probability of the efficiency of this factor, we instinctively look for other causes concomitant and anterior to it.

† Hass: "Zeitschrift der Deutschen Morgenländische Gesellschaft," Vol. XXX. P. 617; Vol. XXXI, P. 647.

Susruta and  
Hippocrates.

medical knowledge existed in Egypt at a period even anterior to the date assigned by the Greeks to the Trojan war, and at least many hundred years before the birth of Hippocrates. "Herodotus' Histories" are sufficient evidence on this score. Nevertheless Hass attempts to show that the medical writings of the Hindus are of recent origin, in fact that they were composed at a period subsequent to that in which the various Hippocratic treatises were given to the world. He goes still further and asserts that in all probability the "Susruta" is really a derivative of the Hippocratic system, and even that the name "Susruta" is a Hindu corruption of Hippocrates. It is supposed by him that the Hippocratic writings were rapidly disseminated through Asia and India by the Greek physicians, who were in such demand at the courts of the Eastern kings, but in the accounts of Alexander's campaigns will be found notices of Oriental physicians who possessed such knowledge of various parts of physics as were unknown to the army doctors, especially in regard to the cures for the bites of venomous serpents, which is perhaps not very conclusive evidence of a more extensive knowledge. Nevertheless in reading the "Susruta" and the "Charaka" one will be much impressed by some striking analogies to passages in some of the Hippocratic books which seem not to have been transmitted through generations, but to have been directly transferred from one treatise with very little modification to the other. Which was the original in nowise appears. It is scarcely necessary to say that Hass' arguments have not been generally accepted as convincing.

At any rate, since the dawn of history, western medical knowledge blown on the wings of the wind from European lands has scarcely produced a ripple on the stagnant pool of Hindu medicine, and to-day the two systems in India are practiced side by side.

The Hindu "Ayurvedas," just as the medical knowledge of all ancient peoples, were supposed to be of divine origin. Even in modern times the Christian Scientists and their ilk remind us of this tendency. The "Ayurveda of Susruta" was revealed by D'hanyantare, the physician of the gods, out of compassion for the suffering of mortal men. These medical vedas or axioms were collected and transcribed by his disciple Susruta. The "Ayurveda of Susruta" is said by the wise men of the East to be at least of a date 1000 years B.C., and it contains scraps of medical lore which bear every evidence of being still more ancient. Time being of little

value to the dreamy Hindu, his chronology is a source of inexhaustible irritation to the uneasy Western savage. Although we of another civilization have good reason for tracing our philological, our scientific and philosophical, even our ethnical origin, back to this cradle of antiquity, we have traveled a long distance since then on all these highways, and not only is the language obscure, but the ideas are many of them unintelligible to us in their old books. Therefore, although the "Susruta" is admirably arranged in captions much in accord with modern medical ideas, the Latin translation of Hessler (1844) is in many places confusing, and it is perfectly evident that the translator is often himself groping in the dark.

There are to be found in the "Susruta," and easily referred to in Hessler's rendering, many references to the diseases of the nose and throat, some of them recognizable by our barbaric Western intellect, but many of them to us quite vague.

The "Charaka Samhita" is being translated from Sanskrit into English by Avinash Chandra Kavaratna, a learned pundit of Calcutta. This work is said by the Hindus to be a revelation of Indra, the god of the middle air, through Charaka the sage, and is said to be of much more ancient origin than the compilation of "Susruta." At least it is more unintelligible to the modern student of medical history. To the student of philology it is said by Wise and Müller, and Eastern scholars generally, to be of greater value than the "Susruta," and the learned and enthusiastic translator, a patriotic Hindu, indulges in the fond hope that by the diffusion of the wisdom of Charaka a profound impression may be made upon the practice of the medical art as pursued by the energetic sons of the West, the physicians of Europe and America. I am afraid our Hindu confrère does not realize the obduracy of the seed of Japhet.

"Charaka-Samhita."

Both in the "Susruta" and in the "Charaka" the declaration is made, and this is found very little modified in the medical works of the Greeks, that "Wind, bile, phlegm have been said to be the cause of all bodily diseases." What follows, however, I have not noted among the writings of the Greeks. It is a little too mystic for them, apparently. "The qualities of passion and darkness have again been indicated to be the causes of mental diseases."—("Charaka.")

In "Susruta" we learn\* that there are sixty-four diseases of the mouth in seven situations. The seats of morbid action are the

\* Hessler: "Pathologia," Chap. XVI, P. 202

lips (8 diseases), roots of the teeth (15), the teeth (8), the palate (9), the fauces (17) and all of them together (3).\*

As one of the diseases of the palate we recognize quinsy in Hessler's Latin: "Tumor rigidus, in palati regione a sanguine ortus existit. Cognoscendus est hic morbus angina, febre dives." There are various passages translated by Hessler which Morell McKenzie supposes to refer to diphtheria, but I doubt if we can differentiate the different forms of acute throat inflammation, accounts of which are found here, as elsewhere, in all extensive treatises of the ancients on disease, it matters not to what age or people they belong.

One can not but be struck by the early tendency of the medical man to lay great stress and emphasis on a name. We have seen how the physician of Egypt was to announce the presence of a "fatty tumor in the neck," and here in the "Susruta" the rendering is: "Qui tumor in linguæ dorso magnus est, is intumescencia vocatur." We may readily imagine that these venerable doctors of the hoary past made use of some recondite word of a language still older than their own, if any such there were, to express in suitably dignified terms for the edification of the laity a diagnosis which was really only a definition, "Un specieux babil, qui vous donne des mots pour des raisons," as Moliere† puts it 2500 years later.

Uvulotomy  
and Tonsil-  
lotomy.

Here and there we can recognize familiar surgical operations. "By means of forceps between thumb and finger, drawing the uvula forward, the physician may cut it with a sickle-shaped knife above the top of the tongue." "Gilaguin (quinsy ?), so called, may be cured by the knife." Firm, hard and filling the fauces, extraordinarily swollen with sprouting flesh, giving rise to much pain, caused by the evil inflammation of the humors, killing almost a hundred men, it is recognized that (this ?) swelling of the ton-

\* The statement is made by Galen—"Galen in Hippocratis Librum de Alimento Commentarius," III, XXVI, Vol. XV, P. 363 (Kuehn)—that the school of Cnidos, the rival of that of Cos, divided diseases into a great number of different kinds: "Seven diseases of the bile, twelve diseases of the bladder, four diseases of the kidneys," etc.

† If we consult the ideas and the philosophy of Pythagoras (500 B. C.), which had a profound effect upon Greek civilization and had a great influence at the school of Cnidos, we will find in them traces of much which he derived, evidently, from his long travels and his diligent studies pursued among the Oriental nations with which Greek tradition credits him. Now this reverence for numbers we find in the "Charaka" and "Susruta," and we have already noted it in the "Zend-Avesta" and in the "Talmud" in connection with diseases. It is by many little hints such as this that we are able to trace the connection of Greek medicine with that of the Orientals, and we may also note how the latter have purified and exalted it, not only by their initiative, but by the dropping of the superstitions with which it was overgrown. There is very little of spells and incantations, and reverence for numbers and malignant demons, to be found in the Hippocratic writings.

† "Malade Imaginaire."



sils is incurable; but a tumor seen in the throat about the size of the seed of the *Phyllanthus Emblica*, stationary, a little painful, made up of phlegm and blood, adherent like the fruit of the *Terminalia Alata*, this, curable by the knife, is called *Gilagu*." Are we here to recognize a differentiation of malignant and benign swelling of the tonsils and the prevalence of the practice of tonsillotomy?

Wise, in his "Hindu System of Medicine," describes a method of abscission of the tonsils which aimed at removing a third part only with the knife. "If all is cut the patient will die of hemorrhage." As he does not give his reference I am uncertain if this is contained in the more ancient books or not. Many more recent writers have insisted that a partial excision only is ever indicated, and is sufficient. We may be sure from these passages that they knew what secondary tonsillar hemorrhage meant as well as some of the rest of us.

It is especially in the Hindu writings that we find such complete and minute accounts of the various plastic operations about the nose. This was due, doubtless, to the practice of the wrathful oriental potentates who amputated the nose out of revenge or in the exercise of judicial penalties. This art was almost entirely forgotten by the Greeks; because they shrank in horror from the mutilation of the human form, and had little opportunity to practice plastic operations for its correction. In a more savage age and country, many centuries later, it was revived by Tagliacozzi, but we shall easily trace it back to its Oriental source.

Rhinoplasty.

Vaporization and fumigation through a tube were frequently employed in the diseases of the nose and throat. Stimulating and acrid vapors seem to have been recommended in what we may conjecture was *ozena*.<sup>\*</sup> It was also prescribed for coughs, asthma, hoarseness, mucus discharges and enlargement of the tonsils, but as it was also advised for "morbid baldness and a reddish yellowness of the hair,"<sup>†</sup> one is left in some doubt as to its *modus operandi*. These diseases were all due, according to the sage, to the same cause. Local applications of ointments were made to the nostrils and various sternutatories were used for cleansing the nasal chambers, after which, apparently in coryza, the following directions were explicit, and could be only slightly improved by the modern rhinologist: The patient was to lie on his back, raise the tip of his nose with his index finger and allow his physician to drop in his nostrils warm oleaginous liquids. While this was being

Treatment of  
Catarrh.

<sup>\*</sup> "Susruta." *Therapia*, Cap. XXII-XL. (Hessler.)

<sup>†</sup> "Charaka." (Trans. by Kavaratna.)

done he was not to become angry, nor speak, nor laugh, nor swallow the oil dripping from his nose, but spit it out. The use of sternutatories or snuffs was also recommended for sleeplessness and clearing the head in the morning—apparently prescribed for conditions in which we order douches and sprays. Gargles were also a part of their therapeutical resources. They very often used oil as a menstrum, and apparently had a more thorough way of using the gargle than we usually insist upon.\* It is evident that these old Hindus recognized the dependence of laryngeal on nasal diseases, as is apparent in this sentence in Hessler's translation: "*Nasale remedium morbos hominum supra claviculam ortos refrenat et organa sensuum pura atque os suaveoleus efficere potest.*"

In the light of recent sanitary doctrines and regulations the following quotation from Charaka (P. 74) may be of interest: "One should not eject the mucus or phlegm of one's nose in a place that is crowded." This, however, may have been only a precept of social intercourse rather than having the additional sanitary weight it now possesses. At this place occurs rather frank advice as to the relations between man and wife. They are amusing, but perhaps a little out of place now in print when not attended by the strict scientific necessity for their publication. The one precept which may be quoted here is as applicable to laryngologists and rhinologists as it is to the rest of mankind. It is to the effect that a man should make a confidante of his wife, but he should not tell her all his secrets. These little scraps from the dim and misty past of a forgotten civilization make one realize the universal brotherhood of man. In fact, one cannot even glance through the works of Charaka, and especially of Susruta, without having one's mind impressed with the antiquity of human knowledge and wisdom, and it is a vast education for any man when he can be brought to realize, in this egotistical epoch, how little of it after all has had its origin in his day and generation.

We can only conjecture that the development of the arts and sciences of the ancient oriental world must have occurred chiefly in some prehistoric cycle of human activity, when man's mind and body were as free along the Ganges as they were on the shore of the Ægean when the Hellenic tribes took up the torch, in the blazing light of which we still live. This is what liberty means, and we can now see along the Ganges and on the Ægean the results of the mental and political slavery not only of an oriental, but of a once glorious occidental race.

\* "Susruta." Tomus, III, p. 42. (Hessler.)

In Wise's work on "Hindu Medicine," from which I now quote, there are many accounts of nose and throat diseases which I can not find or have inadvertently passed over in the translations of the "Charaka" and of the "Susruta" at my disposal. As he states that his work is taken exclusively from the ancient Hindu writings, although in the passages cited he does not indicate the sources from which he draws his information, it may be inferred that they are of equal antiquity with those I have drawn directly from the translations of Hessler and Kavaratna. Moreover, I recognize in Wise's book many passages identical with those in the "Charaka" and "Susruta."

Medicines administered by fumigation through the nostrils were used not only for local nasal diseases, but for some general affections, and particular directions are given for using them. Among the errhines or sternutatories to clear the head may be noted pepper, mustard, orris, ginger, asafetida. One might think they would be efficient. One of the methods recommended for causing sneezing was to look at the sun so that its rays would fall on the mucous membrane of the nostrils. We recognize here an error in mistaking a reflex phenomenon of the retina for a direct action.

Among the gargles, besides the more agreeable ones of oil, vinegar, honey and the juices of fruits, the urine of cows finds a place. Stimulating and irritating substances (pepper) were also prescribed as gargles. There is an instrument spoken of (P. 169) for "eradicating nasal polypi; a frequent and troublesome disease in many parts of Hindustan." It seems to have been some sort of a curette.

(P. 186.) If a foreign body is "in the throat, the extraneous matter may be discharged by thrusting down a hot iron to dissolve it, or soften it, and so remove it. In such case the hot iron is passed through a metallic tube. A probang for removing fish bones is usual; by drinking fluids and emetics it is also dislodged; this may also be done by beating the patient upon the back of the neck." Among the fifteen modes of removing extraneous substances, *Bidmapana* is "by blowing, as a substance introduced into the larynx, which produces great irritation and strong efforts at coughing," etc. *Pramarsa*: "If in the nostrils errhines are to be used." It must be confessed that the art of removing foreign bodies from the upper air passages does not seem to have been very highly developed, and the above described use of the hot iron seems strange and hardly creditable. Is it possible that we have here a confused Hindu rendering of the recommendation by

Foreign  
Bodies.

Fracture of the  
Nose.

Hippocrates for the use of the hot iron in the nose?\*

Again we are reminded of Hippocrates in the passage (Wise, P. 192): "When the bones of the nose are depressed they are to be raised into their natural position by means of an instrument called *Shalaka*: a hollow wooden tube is kept in the nostrils so as to retain the bones in their natural position."† We may note another passage, and this is especially dwelt on by Hass (*l. c.*) as indicative of the corrupt and degenerate derivation of Hindu medicine from the Greeks. There is probably no quotation from Hippocrates so well known as that in which he describes the facies of approaching death (Prognostics 2): "A sharp nose, hollow eyes, collapsed temples; the ears cold, contracted, and their lobes turned out; the skin about the forehead being rough, distended and parched; the color of the whole face being green, black, livid or lead-colored." Now compare this with Wise's translation from the "Susruta": "When it (the nose) becomes pale, dry and shining, and is turned to one side; the nostrils extended, dry and dirty, and the passage of the air produces a noise; or when the point of the nose retracts and is flattened with weakness and depression, the person will soon die." We note how distinctly inferior this is to the graphic description of the Greek sage. I doubt very much the conclusiveness of even the suggestiveness of the passage in the "Susruta" as an argument for the derivation of Hindu from Greek medicine. Similar phenomena were observed by men of dissimilar mental powers.

There are thirty-one diseases of the nose. Simple catarrh, acute and chronic, was called *Pinasa*. *Ozena* is *Putinaska*. Nasal polypi were termed *Nâsârśah* and there were four kinds. Tumors of the nostrils are of five kinds and were called *Nâsârbuda*, but it does not appear how they were distinguished from the nasal polypi (Wise, P. 289). Goitre, tumors of the neck, scrofulous swellings, hoarseness, asthma, cough, are all described, but there is little in the passages which is either interesting or instructive. We may pass lightly over the Hindu conception of anatomy and physiology. As an indication of its limitations, Wise, in his "History of Medicine among the Asiatics" (Vol. I, P. 135), among other examples of their ignorance, declares that the Hindus had but one name for throat, "*Khunt*," including in its signification not only the air-way but the gullet.

\* Diseases II, where much else resembles the "Susruta."

† Vid. "Susruta." Hessler: Tomus, II, P. 67.

### PRAE-HIPPOCRATIC MEDICINE IN GREECE\*

Whatever may have been the truth as to the derivation of Hindu medicine, we have little actual means of knowing whence the Greeks drew the germs of their medical knowledge. We may conjecture that it came with the Phœnician trading vessels from the shores of Asia, or the Hellenic tribes may have brought it from the Asiatic tablelands with them, but more probably much the larger portion of it came directly from the valley of the Nile when in 670 B. C. the land of the lotus flower was thrown open to Greek commerce and Greek curiosity. Thales and Pythagoras are significant personages in the early history of Greek science. In the fragments of their philosophy as well as in the legends of their lives we find unmistakable evidences of their sojourn among the Orientals and of their absorption of Oriental civilization and philosophy. The same may be said of Solon.

Perhaps it may be of some value to note that therapeutics in Greek medicine include none of the disgusting substances and scarcely any of the charms and invocations which mark so strongly that division of medicine among the Egyptians, Chaldeans, Hindus and Eastern races generally, and which we have seen later was introduced into the Greek medical writings of the Roman Empire and upon which I have already commented.

The period of four hundred or five hundred years which stretches from the supposed age of Homer to the birth of Hippocrates (460 B. C.) is one of which we know but little in the history of medicine. It is entirely devoid of medical works which have come down to us. In philosophy, Thales, Xenophanes and Pythagoras greatly influenced the minds of men in weaning them from the superstitions recorded in the "Theogony" of Hesiod. They winnowed out from them idealistic portions which could be made to stand as symbolical of their own ideas of cosmogony.\* Coming down to the time of Socrates, we find him recognizing things divine and things material, while Hippocrates, but little his junior, brings all phenomena under one head and calls them all divine, one not more than the other. (Airs, Places and Waters.) Whatever may have been the channels by which were carried the seeds of knowledge, the marvelous growth which sprang up on the soil of Greece has not ceased and will never cease to excite the wondering admiration of mankind. It is significant perhaps that the opening of Egypt to Greek commerce took place at about the time of the beginning of written records in Greece (660 B. C.

Civilization in  
Greece.

\* Grote: "History of Greece," Vol. I, p. 368 f. f.

Grote: "History of Greece," Vol. II, P. 149), and two hundred years after writing was first introduced and the epic ballads of the wandering bards and rhapsodists became perpetuated in written records we have the birth of the "Father of Medicine." It needs only a cursory perusal of the Hippocratic writings to realize how intense the mental activity of nascent Greek civilization must have been to have produced in the short period of two hundred years a condition which made possible the compilation of these masterpieces of medicine in whose inspiration we still live. After the excursions we have made into the more stagnant civilizations in the search for the origin of medical knowledge we feel that we are nearing home, or at least on more familiar ground, when we begin the study of Greek medical history. At the port of entry looms up, obscuring all others, the great name of Hippocrates. There was medical knowledge in Greece before the birth of Hippocrates, of course, but the records of it have perished and so have the works of those who followed him. It is only by scanning secular literature and by noting references in later medical writings that we are able to obtain some glimpses of the state of the knowledge of the anatomy and the functions, but scarcely of the diseases of the upper air passages. In the legends of the Hellenic races are to be found traces of familiarity with a medical art which existed long before the rise of the school which clustered around the altars of Æsculapius in the Isle of Cos. Hippocrates\* traced his lineage in the seventeenth generation through a medical ancestry to that demigod, who according to Cicero (*De Natura Deorum* III, 22) was the son of Apollo or of Hermes, or of Arsippus and Arsinoe. He was the first to discover the probe, according to Greek legends, the first to bandage a wound, the first to teach men to draw teeth and to purge their bowels. For these and other services he was deified, but because he raised the dead and attempted to exercise his power of making men immortal he was struck into Tartarus by the forked thunderbolt of the jealous Olympian Zeus. His two sons, Podaleirus and Machaon, led the thirty Thessalian ships to the siege of Troy (*"Iliad,"* II, 731) where they exercised their father's art as well as that of Mars. Machaon was said† to be skilled in the arts of the surgeon, while Podaleirus had "skill over things invisible," and to the latter was given precedence, a custom still prevailing in medicine to-day. It is to Machaon, who knew how to draw out darts, to make incisions,

Ancestry of  
Hippocrates.

\* Grote: "History of Greece," Vol. I, P. 182.

† Arktinus: (770 B. C.) "Epic. Græc. Fragm.," II, P. 22.



and to treat wounds and ulcers, that the present generation of rhinologists owe homage rather than to Podaleirus, who diagnosed madness in the blazing eyes of Ajax.

We can do little more in this period of medical history than seek out the origin of the nomenclature of the parts of the human anatomy with which we are concerned. We have seen that the word nose is apparently contemporaneous in origin with that of the Aryan languages. While we have the authority of Daremberg \* for the statement that there are only five instances mentioned in Homer's "Iliad" of wounds of the throat, there are a large number of lines in which the nose is mentioned. We read ("Iliad," V. 291) how Athene directed the lance of Diomedes so that it pierced the nose of Pandarus near the eyes, crashed past the white teeth and, cutting the tongue, appeared under the chin, and how the mortally wounded chieftain pitched headlong from his chariot. There is a line in the "Iliad" which gives evidence that embalming was understood by Homer's Greeks (XIX, 39).

The Nose and Throat in "Homer."

The goddess Thetis dropped nectar and ambrosia into the nostrils of the dead Patroclus to keep the skin hard and firm and thus preserve the body. This she does to allay the grief of her son Achilles at the death of his friend. As we know that embalming was foreign to later Greek customs we may perceive here a familiarity at least with Egyptian practices, if not an influence of Egyptian ideas, and to some extent the prevalence of oriental customs.

We have seen how indefinite was the Hindu word for throat. Although the Greeks, unlike the Hindus, had many words for this part of the anatomy, they used them at first very indefinitely and interchangeably. The word pharynx in early Greek literature was about as indefinite as our word throat. It occurs in Homer's "Odyssey" first. If you will turn to the graphic description of that horrible man-eating Cyclops, Polyphemus, in the ninth book, at line 373, you will find the word there used in describing how, after eating a brace of Greeks and swilling barrels of wine, the bloody swinish giant fell over in drunken stupor on his back in the cave while wine and morsels of his cannibalistic feast regurgitated from his capacious pharynx ("Odyssey," IX, 373).

Etymology of Greek Words for "Throat."

φάρυγος δ' ἐξέσσυτο ὄνος ψωμῶ τ' ἀνδρόμεσσι.

Whether this is the first written use of the word or not, it certainly occurs here in a most vividly striking passage of the greatest of poems by the first of poets. It will be seen that Homer has used the word here in accordance with its present significance, but

\* "La Medicine dans Homere."

in the "Odyssey again (XIX, 480) Ulysses grasps with his right hand the *φάρυγξ* (throat) of Euryclea to prevent her crying out. Even in the works of Hippocrates a similar looseness of meaning is to be observed, as, for instance, in the Littré edition (Vol. VIII, P. 565), where the translator renders the word as larynx. Galen,\* however, in his comments on Hippocrates, declared that by the term pharynx the latter understood that region which is situated in front of the gullet and wind-pipe and which may be inspected by depressing the tongue.

Drink in the  
Larynx.

The word larynx is not found in Homer, but is first noted among the dramatic poets; but here again quite indefinitely arousing our suspicion that *λάρυγξ* may have been at first a corruption and a tautological use of the word *φάρυγξ*. This may be seen by a reference to the plays of Aristophanes ("The Knights," I, 1363; "The Frogs," I, 575). In the "Cyclops of Euripides" (I, 157) occurs the passage, *μὴν τοῦ λάρυγγα διεκάναιξέ σου*, which the dictionary translates, "Has aught run gurgling through thy throat?" The thought arises from this quotation that the idea of the drink going into the larynx must have originally arisen from the resonance of the larynx and trachea transmitting the sound of the swallowed liquid from the esophagus. This might have been still further strengthened by the sight of the movements of the larynx in the act of deglutition. Hippocrates, however, will be found to use the word more correctly when referring to results of the division of the wind-pipe ("The Flesh," 18), and in the chapter ("Concerning the Nature of the Bones," 1) where he describes how the larynx goes to the lungs and thence to the top of the bladder, but even as late as Galen the two terms were occasionally used interchangeably. Aristotle also uses the word in its present signification and only rarely speaks of the wind-pipe, *i. e.*, the trachea, as extending from the lungs to the mouth. Not until Galen, however, do we find the term definitely established by his anatomical descriptions.

Homer uses the word *Ασφάραγος* once in the "Iliad" (XXII, 328), as a similar but more indefinite term. The god-like Achilles, with the terrible spear, smote Hector in the throat, above the clavicles, where the neck starts from the shoulder, in order that there might be quick loss of life. "There the point went through the tender neck," but the *Ασφάραγος* was not cut, in order that the prostrate man might answer the victor's cruel taunts. It is clear, therefore, that Homer recognizes, by this term, the organ from

\* Ed. Kuehn, XVIII. B. P. 264.

which the voice issues. We may be allowed to conjecture, in the absence of any information to the contrary, that this term *Ασφάραγος* arose from the contemplation of the wind-pipe as it sprouted from the root of the lungs of the slaughtered sacrificial animals, whose entrails were examined by the priests in their religious ceremonies for prophetic indications. It must have appeared to them not unlike a thick stalk of the vegetable for which the word, in one of its two forms, was identical, according to the dictionary. From this may have come *φάρυξ* and later *λάρυξ*. This, however, is entirely conjectural on my part.\*

Daremborg is of the opinion that Homer, and, of course, by Homer we mean the men of his day, knew that food and drink passed down the gullet. He refers to the "Iliad" (XXIV, 641, 642), but I am not satisfied that *λανκανίης*, the word employed, meant the esophagus. It seems to have been applied almost as loosely as the other Greek words for throat (Vid., etc., XXII, 325).

We will discuss later the interesting error of the ancients in regard to the destination of liquids when swallowed. It is well known, of course, that the word trachea arose from the subsequent use by Erasistratus (Sprengel) of that Greek adjective, meaning "rough," in connection with the artery (*αρτηρία τραχεία*) to signify that it belonged to the same class of structures as we now know to carry blood and not air. The artery part of the name was dropped when this error passed away and the trachea remained. *Βρόγχος* was a word also frequently applied to the whole wind-pipe, but later coming into use for the channels below the division of the trachea.

Finally, I quote from another brochure of Daremborg† the derivation of another term rhinologists use every day:

"Euripides (Fragm. 1044) is, I believe, the first author where one meets with *Μυκτήρ*—the nostrils or the nose. It seems also that Sophocles (Fragm. 58), and especially Aristophanes (Fragm. 650), calls the nose or the nostrils by the name *Μύξα*, which is regularly applied to the mucus which escapes from them. ("The Knights," 910; "The Wasps," 1488).

Scientific and philosophical records being so defective, and purely medical treatises being entirely lost, if any existed before the Hippocratic era in Greece, we can not hope to glean much in

\* While the root of the word pharynx is said to be the same as in *φερω*—Latin *fero*—we may imagine it is true, without any proof to the contrary, that the word *aspharagos* arose as here stated.—Vid. Cent. Dict. and Greek Lexicon.

† "L'Etat de la Médecine entre Homère et Hippocrate,"

Early Greek  
Superstition.

regard to our subject from this period. Nevertheless some faint reflections may be found in the works of the later writers.

Here is a fragment suggestive of the character of early Greek medicine, showing that it differed little from that of other rude and uncivilized races. The Dog and the Serpent were alike sacred to Æsculapius, and on the second one of the columns, seen by Pausanias at Epidaurus, this record has been found engraved among others of medical interest, testifying to the efficacy of the holy dogs kept at the shrines. A child of Egina, "affected with a tumor of the neck, applied to the god. One of the sacred dogs licked the affected part and cured it."\*

Philosophy has always at all epochs of Medicine dominated it. Pythagoras established four elements: Earth, Fire, Air and Water—Empedocles admits these, but adds to them their qualities: the cold and hot, the wet and dry, which are found in medicine until the Renaissance.

In Plutarch's "Morals"† there are to be found some curious chapters on the senses, and he there quotes from many of the old Greek philosophers who lived before the time of Hippocrates and whose writings were apparently extant in the time of Plutarch (46 A. D.). The chapters on smell and taste are of interest to us here.

"Alcmaeon (B. 520 B. C.) believes that the principal part of the soul, residing in the brain, draws to itself odors by respiration. Empedocles (B. 490 B. C.), that scents insert themselves into the breathing of the lung; for when there is great difficulty in breathing, odors are not perceived by reason of the sharpness; and this we experience in those who have the defluxion of Rheum."

"Alcmaeon says that a moist warmth in the tongue, joined with the softness of it, gives difference of taste. Diogenes,‡ that by the softness and sponginess of the tongue, and because the veins of the body are joined in it, tastes are diffused by the tongue; for they are attracted from it to that sense and to the commanding part of the soul, as from a sponge."

The Eustachian Tube.

Alcmaeon is said to have been the first Greek anatomist and to have dissected the eyes and ears of animals, discovering the optic

\* Reinach: "Revue Archeologique," 1884, II, P. 129; 1885, I, P. 267. For a most interesting account of the Temple of Æsculapius at Epidaurus, see a paper by W. S. Coleman, M.D. F.R.C.P., St. Thomas Hospital Reports, Vol. XXVII, 1898.

For a very readable account of the cult at Epidaurus, see "The Temples and Rituals of Asklepios," by Richard Caton, M.D., etc., 1900.

† Translation. Ed. Goodwin, 1870, Vol. III, P. 170 (De Placitis Philos.).

‡ I presume Plutarch here refers to Diogenes of Apollonia, born in the fifth century B. C., who described the distribution of the blood vessels, which is to be found in the fragment of his writings still preserved. "Fragm. Philosoph. Graec. Mullach," Vol. I, P. 254.

nerve and the Eustachian canal, thus antedating in the latter discovery, Eustachius by many centuries. Aristotle (*Hist. Animal* I. IX, 1) comments on a mistake of Alcmaeon in supposing that goats breathed through their ears. It is singular that this error should crop out so late as the seventeenth century A. D., but Tulpus may be found\* asserting, in spite of Aristotle, that on account of this anatomical configuration, as described by Alcmaeon, it is possible in labored inspiration for air to find this auxiliary passage to the lungs.

Alcmaeon explained hearing by the hollow bone behind the ear—"for all hollow things are sonorous." (Plutarch l. c.)†

Empedocles discovered the labyrinth of the ear and explained sound by the impress of air upon it as upon a drum. In one of the fragments preserved from the "*Carmina* of Empedocles,"‡ we read: "Thus they breathe out and in. Bloodless tubes extend through all the flesh throughout the whole body, and the end of these placed within the nostrils is perforated by large openings leading to the cavities (cerebral?) so that they may hold back the blood and open free passage for the air through the meatus." This perhaps would suffice to illustrate the confusion in regard to anatomy which existed among the best informed of those philosophers older than Hippocrates, but I may perhaps be allowed to add an embryological idea which Sprengel has found among the fragments of verses of Empedocles: "He attributed the formation of the abdominal cavity and that of the intestines to the sudden and rapid passage of water through the body at the moment of its formation, and the external openings of the nose to a current of air which was established from the interior to the exterior."

Diogenes of Apollonia (500-400 B.C.) explained the superior intelligence of men by supposing they breathed a purer air than the beasts which carry their noses near the ground. (Draper.)

Democritus is said to have been born at Abdera in the same year (460 B.C.) and to have been greatly admired by Hippocrates, who reproved the countrymen of Democritus for having supposed him insane and for sending for him to cure him. He is said to have derived his atomic theory from Leucippus (B. 500 B.C.) He is quoted by Plutarch (l. c.) in regard to the voice as saying that "the air is broken into bodies of similar configuration and these are rolled up and down with the fragments of the voice." This

The Atomic  
Theory.

\* *Observat. Med.*, 1541, Lib. I, Cap. XXXV.

† See also Kuehn: "*Opuscula Minora*," I, P. 69.

‡ "*Fragm. Philosoph. Graec.*" Mullach, 1875, 2d Vol. I, 343 f. f.

statement seems, of course, rather fantastical and we might suspect Plutarch had confused a more intelligible passage from Democritus did we not find in one of the fragments\* remaining to us from Democritus an analogous statement as to taste, the distinctions of which he attributed to the different shapes of his atoms. Plutarch continues: "The stoics say the air is not composed of small fragments, but is a continued body and nowhere admits a vacuum; and being struck with the breath, it is infinitely moved in waves and in right circles until it fills that air which invests it, as we see in a fish pool which we smite by a falling stone cast upon it; yet the air is moved spherically, the water obliquely. Anaxagoras (B. 500 B.C.) says a voice is then formed, when upon a solid air the breath is incident, which being reperculated is carried to the ears; after the same manner the echo is produced." Out of much which is to us mere jargon, but which to them was perhaps full of meaning, it may be seen that we may occasionally extract passages which need little altering to conform with modern doctrine.†

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\* "Fragm. Philosoph. Graec." Mullach, 1875, Vol. II, P. 362.

† It is absolutely necessary for any one desiring an intelligent knowledge of the medical theories in the writings of Hippocrates and of all subsequent medical writers, that he should acquaint himself thoroughly with the material and psychic philosophy of the ancients. A very good résumé of the subject so far as it applies to medical doctrines may be found in the Preliminary Discourses attached to Adams' Sydenham edition of "The Genuine Works of Hippocrates," while Draper in his "Intellectual Development of Europe" gives a somewhat biased review of Greek philosophy in its broader ramifications. In the "Proemium of Celsus," however, will be found the most succinct and the clearest account of Medical Schools among the ancients.

(To be continued.)

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## SEROUS DISEASE OF THE MAXILLARY ANTRUM WITH A REPORT OF TWO CASES.\*

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In the critical study accorded diseases of the nasal accessory sinuses, empyema has been the center of interest because suppuration in the maxillary, frontal or other sinuses is found not only to underlie offensive nasal affections but to constitute a center whence septic material is absorbed and infection spread to neighboring organs. Less attention, especially in this country, has been given the muco-serous accumulations; indeed, the frequency of so-called "serous disease" of the antrum has been disclosed only of late by a systematic resort to exploratory puncture in the search for empyema and by assiduous post-mortem inspection of the nasal accessory sinuses. The clinical picture of acute rhinitis associated with acute inflammation of the maxillary or frontal sinus is not unusual. The pain and sensations of heat and distension are observed to be momentarily relieved by the occasional escape of mucus or muco-serum through the narrowed osteum into the middle meatus. This can be none other than an acute catarrhal sinusitis with excess of secretion, which condition has been verified at autopsies in influenza cases by Weichselbaum<sup>1</sup>, who found muco-serum which was not cystic retained in the antrum, and in diphtheria and pneumonia cases by Wertheim.<sup>2</sup>

Acute sinusitis may terminate in spontaneous recovery, in acute suppuration and then recovery, in chronic suppuration and probably in chronic catarrhal sinusitis. The existence of the latter with retention of muco-serum is also verified by autopsy.<sup>3</sup> Whether it follows acute sinusitis or originates *de novo* is not material. Whether it can result in the retention of a serous liquid, as in so-called "serous disease" which is not cystic, is still a subject of discussion. Granting tentatively the affirmative, chronic catarrhal sinusitis may then result in the following formations as products of the inflammation:

### 1. Polyps.

\* Presented at the annual meeting of the American Laryngological Society, New Haven, May 27 to 29, 1901.



2. Cysts.
3. Osteophytes.

4. Hydrops inflammatorius or serous collection. Polyps, cysts and osteophytes may also exist in conjunction with suppurative sinusitis.

Only large accumulations are described in the older literature, those sufficient to cause pronounced pressure symptoms, external deformity, and through erosion of the bone the appearance of a fluctuating crepitating tumor with perhaps a fistulous opening. The term *mucocele*, while likewise applied to serous collections, is more particularly used when the contained material is mucoid, soft, semi-solid, varying to a thinner consistency, and the lining membrane the site of a low-grade cell proliferation, with edema, polyps and cysts. When, as may be the case with any sinus, but particularly with the antrum, the distended sinus contained a thin serous fluid, it was known as *hydrops antri*. Giraldes,<sup>4</sup> Virchow<sup>5</sup> and Wernher<sup>6</sup> early objected to the latter term as applying a false notion of the real pathological condition, maintaining that the fluid was not free in the sinus, but was contained in a cyst. Berger<sup>7</sup> also likens it to a specimen shown in conjunction with magitot of a dentary cyst which had filled the sinus. Cysts when not dentigerous are ascribed<sup>8</sup> to dilatation of a follicle or degeneration of a polyp.

Several modern authors, however (Browne, Kyle, Shurley, Schech), while recognizing a greater frequency of cysts are disposed to retain the term "hydrops" or its equivalent as a continued recognition of a non-cystic serous exudation either inflammatory with closure of the osteum, passive as in kidney disease, or from venous obstruction. Cases by Delie, Dmochowski<sup>9</sup> and Krebs are cited in which there was no cyst wall and no "rest" or sinus angle unfilled.

Thus the matter stood until, in consequence of the systematic resort to exploratory puncture, smaller, often insensible, accumulations of muco-serum and serum are found to be relatively frequent. Noltinius<sup>10</sup> in 1895 reported the stately number of thirty-seven cases of "serous disease" ("Seroser Erkrankung") of the maxillary sinus. He believed the fluid to be free in the antrum, therefore a muco-serous or so-called serous inflammation. The treatment was by simple drainage. Korner<sup>11</sup> in 1896 reported seven similar cases and confirmed Noltinius' views. Halasz<sup>12</sup> in 1898 reported five cases. Dmochowski<sup>13</sup> in 1895, in a prize essay, based on numerous anatomical sections, records two which particularly bear on this point. The first (Case I) was devoid of symptoms during life, but at autopsy had in the right antrum 3 c.c. of muco-serous

fluid which contained epithelial cells and lymph corpuscles and clouded with acetic acid. The mucous membrane was much hypertrophied, yellowish and edematous. When incised a similar fluid escaped. Microscopically the membrane showed epithelium in good condition, the fibers were pushed apart and the meshes contained collections of small cells. Glands numerous, but degenerated. No cysts. The osteum maxillare was patent. Other sinuses and mucous membranes unaffected. The case is interpreted as one of chronic catarrhal sinusitis. In the other case (Case II) there had been no symptoms during life indicative of antrum disease, but at autopsy the osteum maxillare was found completely closed and the sinus distended by a transparent yellowish fluid which did not cloud on the addition of acetic acid and contained only fibrin. The mucous lining was thin, shiny, devoid of epithelium except in spots. Glands few and degenerated, blood vessels numerous. In one angle of the sinus grew a cystic polypus the size of a hazelnut. Dmochowski regards this case as an instance of "hydrops inflammatorius" and not as a large cyst and remarks that a cystic polypus growing within a cyst has not yet been observed. He explains the development as follows: The chronic catarrhal secretion, in consequence of closure of the osteum, distends the sinus, the mucous membrane and glands atrophy from pressure and the original mucous morphological elements disappear by fatty degeneration, there remaining in the fluid only fibrin which also finally disappears. He regards the process as analogous to hydrops processus vermiciformis. Killian<sup>14</sup> in "Heyman's Handbuch," and Hajek,<sup>15</sup> while regarding cystic formations as more numerous, accept as possible the free accumulation in the antrum of muco-serous and serous fluids. Out of 400 autopsies Wertheim<sup>16</sup> found free serous fluid in the sinuses in 48, in the antrum in 14. Of 48, six showed inflammatory changes in the mucosa.

Alexander<sup>17</sup>, on the other hand, maintains that these conditions concern always cysts, which opinion is based upon an anatomical specimen in which a clump of small cysts formed a bolster-like mass at about the center of the nasal wall of the antrum, and upon clinical cases in which, after curetting, remnants of cysts were identified. In two cases (Cases III and IV), with pus in the middle meatus, aspiration yielded serum, arguing in favor of cyst in a suppurating sinus. In another case (Case VI), on opening the antrum, there was found the collapsed wall of a large cyst within which grew a small cyst. He regards this as a refutation of Dmochowski's position that a cyst cannot grow within a cyst. Hajek<sup>18</sup> also reports cysts yielding serum by aspiration from suppurating antra.

My own cases afford opportunity for study only from a clinical standpoint, yet they present features of interest which may tend toward a clearer understanding of the subject. The first is one of acute sinusitis with retained muco-serous secretion, and is serviceable for comparison of the fluid with that of the second case, one of chronic serous disease.

*Case I.*—G. S. I. Recurrent nasal polypi, polypoid transformation of the middle turbinated bodies. Septum deflected toward the left. No purulent discharge nor shadow on transillumination at this time. Resection of middle turbinated bodies and removal of all tangible polyps. Much benefit. Some months afterwards, in November, 1897, he returned suffering from an acute influenzal cold, with pain and edema through the left cheek, conjunctiva congested and temperature elevated. Transillumination gave diminished clearness of the left side. Aspiration by Schmidt's needle in the middle meatus yielded a syringe-ful, 4 c.c., of a clear straw-colored muco-serous fluid. This coagulated in part spontaneously, and, on being centrifuged, gave a residuum of one-eighth bulk, which microscopically showed a fibrous-like mass with a few epithelial and lymph cells. No cholesterin crystals. The supernatant liquid wholly coagulated on boiling. The urgent symptoms abated, but a few days later pus appeared in the middle meatus and an exploratory puncture yielded ordinary pus. Suppuration persisting, eventually an opening was made in the anterior wall. Palpation with the little finger disclosed nothing. Sinus moderately cured. Complete recovery. Four years later the patient writes: "Discharge ceased and opening healed immediately after drainage tube was removed by you. No further discharge. Nose in good condition, plenty of breathing room, very little mucus discharge."

Semon<sup>19</sup> describes a similar case in his own person, believing the muco-serum to have been free in the antrum, but others have interpreted his case as a cyst which had undergone sudden enlargement, and ruptured at the periods when he felt a free discharge and relief. In Case I the large amount of albumin and the lymph corpuscles would indicate a mucus rather than a cystic secretion and the fibrin indicates an inflammatory origin of the fluid. The question arises whether transformation from a muco-serous fluid to pus might not have been due to infection by the exploratory puncture, but in view of the fact that the puncture was made aseptically and that the many punctures to be recorded in Case II had no such effect, the suppuration must be ascribed to other causes inherent in the case.

*Case II.*—Mrs. C. S., aged sixty-two years, has had polyps removed from time to time. Examination October 23, 1900. Bilateral

multiple nasal polypi and consequent mouth-breathing, which is her sole complaint. No pain, sense of distension, purulent discharge or asthma. After the removal of several polyps it was seen that both middle turbinated bodies were greatly enlarged and in a state of polypoid transformation.

*October 30.*—The transillumination test shows the infraorbital crescent on each side diminished, but not in complete shadow, brighter on the right than on the left side. No pus in the middle meatus. Aspiration of the left maxillary sinus through the nasal wall in the middle meatus yielded a syringeful, 4 c.c., of a viscid transparent fluid, which was submitted for bacteriological examination.

*November 13.*—In order to free the upper part of the nostril of an impacted mass of polypoid tissue, to remove obstruction from the osteum maxillare and expose polyps attached to the borders of the hiatus, resection of the left middle turbinated body was made by the author's method, described before this association in 1891 in a paper entitled "The Radical Treatment of Nasal Polypus."

*January 8.*—Repuncture of the left antrum was now entirely negative, both on aspiration and irrigation. Improved clearness by transillumination. At the same sitting aspiration of the right maxillary sinus yielded a syringeful of similar fluid, this preceding any operating on that side except the snaring of a few polyps several weeks ago.

*January 22.*—The first puncture of the right antrum yielded two syringefuls, 8 c.c., of a clear, straw-colored, viscid fluid, which was submitted for both chemical and bacteriological examination. Aspiration through the inferior meatus yielded an additional half-syringeful of identical fluid, now blood-stained from previous punctures. Irrigation produced a counterflow through the osteum maxillare, but only under heavy pressure. It was thought that a few drops of the serous fluid could be discerned in the washings, but not showing like pus, it was difficult to tell.

*January 29.*—A second aspiration of the right antrum yielded a syringeful of very bloody fluid, probably made sanious by the leakage of blood into the sinus during snaring of polyps from the middle meatus three days ago or else by the puncture made a week ago.

*February 5.*—A third aspiration of the right antrum again yielded a clear serous fluid. A resection was now made of the degenerated right middle turbinated body with a large polypoid mass and polyp-buds attached.

*February 25.*—The fourth puncture test of the right antrum yielded only a few drops of a clear fluid mixed with numerous air bubbles.

*March 19.*—Aspiration and irrigation of both antra were now entirely negative. There was no discharge and no discomfort. It would seem that natural drainage of the maxillary sinuses had been restored by removal of obstruction from the nasal surfaces.

#### CHEMICAL REPORT.

The fluid had a slightly reddish tinge from the presence of a small amount of blood. On standing the corpuscles separated, leaving a thin colorless supernatant liquid. Chemical tests showed the presence of serum albumin as well as what appeared to be a trace of mucin, the amount of the latter substance, however, being too small for positive identification. The proportion of the serum albumin was not large, certainly not over one-fourth per cent.

(Signed) J. H. LONG,

Prof. of Chemistry, Northwestern University Medical School.

#### FIRST BACTERIOLOGICAL REPORT.

On December 11th we received a fluid removed by aspiration from the left antrum of Highmore. Direct cover-glass smear preparations show no bacteria, but two culture tubes contained good large colonies of bacillus coli communis.

(Signed) F. R. ZEIT,

First Asst. Dept. of Pathol. and Bacteriol., Northwestern Univ. Med. School.

#### SECOND BACTERIOLOGICAL REPORT.

Specimens stained for bacteria show very few isolated bacteria, cocci and single bacilli. Cultures: Smear inoculations were made on inclined agar, Löffler's blood serum and human blood serum. Some of the tubes remained sterile, in others a few scattered colonies appeared, cultivations from which resulted in the separation of four species, micrococcus cereus albus, bacillus subtilis, Friedlander's pneumonia bacillus and a small bacillus with the name not determined. (Here follow identification characteristics.) The cultures indicate that there was not a specific bacterium present. The species separated were not actively vegative because they did not grow promptly. Pathogenous: A guinea pig was inoculated subcutaneously with 5 c.c. of the fluid, with negative result. Microscopic examination: Only a very few epithelial cells and red blood corpuscles are visible.

(Signed) ADOLPH GEHRMAN,

Bacteriologist to Columbus Medical Laboratory.

It is, of course, impossible to specify the exact condition within these sinuses. On the assumption of cysts, the clinical phenomena are more difficult to explain than in most other cases. The "serous disease" was bilateral, and if cystic they must have well filled the cavity on each side for the fluid was withdrawn from the left side at the level of the middle meatus and on the right side by repeated punctures at different locations in both the middle and inferior meatus. There were no signs about the gums pointing to dentigerous cysts. There was no distension. On the left side, if a cyst, it must have failed to refill after a single aspiration. On the right side, if a cyst, the irrigation counterflow through the hiatus and the

mixture of air bubbles with the fluid on the sixth aspiration are inexplicable. The fluid was, strictly speaking, muco-serous, but not the product of an acutely active inflammation, for it contained but a trace of mucin, few cellular elements and little or no fibrin. It resembled a cystic fluid except that it did not contain cholesterol crystals. It was so largely serous as to fall within the meaning of the terms "serous disease" and hydrops inflammatorius.

The diagnosis of a serous accumulation, without distension or deformity, must be based upon aspiration. The transillumination test is indecisive, although in both my cases the light transmission was distinctly impaired, while not constituting a distinct shadow. This, together with nasal polypus, degeneration of the middle turbinated body, ill-defined browache or sense of fullness in the cheek should suggest an exploratory puncture. To distinguish a free serous collection from a cyst may be quite impossible without a wide opening of the sinus and even then and at autopsy it has sometimes been impossible to determine the point. On transillumination a fully developed cyst is said to permit or even enhance translucency.<sup>20</sup> Lambert Lack<sup>21</sup> reports perfect translucency when the antrum was distended by a mass of polypi without pus or other fluid. Muco-serous collections impair the translucency, but I judge the impairment would vary with the degree of thickening of the mucosa and intensity of the light.

The treatment is in part suggested by the success in Case II. Obstruction to the osteum maxillare should be remedied and to this end enlarged middle turbinated bodies should be resected and polyps removed. Noltenius drained the antrum by a large trocar opening in the inferior meatus. If cystic or if recovery has not ensued by suitable nasal treatment an opening in the anterior wall of the sinus sufficiently large for palpation and then curetting would seem to promise a cure and perhaps forestall what would ultimately become an empyema.

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## TONSILLOTOMY RASH.\*

BY WYATT WINGRAVE, M.D., LONDON.

Physician and Pathologist, Central London Throat and Ear Hospital.

The occurrence of a skin eruption following operations, often referred to as "surgical rash," is familiar to all of us, but its association with the removal of tonsils and adenoids is perhaps not so widely recognized that a few notes may not be of interest.

Recent experiences of several instances prompted a reference to my hospital and private records which has revealed twenty-six cases in the course of seven years. Although relatively to the large number of operations this is but a small percentage, I feel from recent experience that they represent but a portion only of those actually occurring, and that a thorough and systematic inquiry would afford evidence of greater prevalence.

It is the custom at our hospital for all patients who are operated on in the extern department to attend, after a week's interval, for examination; and in several instances the parent has reported that the child was kept at home because it had a rash which was thought to be "something catching." Subsequent investigation, however, in most cases, proved its innocence of specificity. In other cases the rash was still visible on the patient and unattended by constitutional symptoms.

Of the twenty-six cases, three which were in-patients proved to be scarlet fever while one developed diphtheria. The remainder were simple non-specific cases.

*Character of Rash.*—The eruption generally appears on the 2d or 3d day, either papular, roseolar or erythematous in type. It most frequently attacks neck, chest and abdomen, sometimes extending to face and extremities. The earliest appearance noted is on the day following operation; the latest one is on the 6th day. Its duration is generally two or three days, but may extend to five days. After reaching its maximum intensity, it rapidly disappears without desquamation, but is sometimes associated with intense itching.

It may occur at any age—the youngest was fourteen months and the oldest twenty-three years.

With regard to sex, excluding the specific cases, sixteen were females and six were males.

\* Paper read by title at the Twenty-third Annual Congress of the American Laryngological Association, held at New Haven, Conn., May 27-29, 1901.

As a rule there is but slight constitutional disturbance and the child does not appear to be any the worse. In those cases which I was able personally to investigate the temperature was increased  $1^{\circ}$  to  $2^{\circ}$  F.

Although the incidence of so innocent a complication in our most common operation may not be unfamiliar to many of us, I am not aware of any published references having been made to the subject. It is, however, a matter of some importance, since foreknowledge will help our diagnosis and prevent any undue precipitancy in forming the graver estimate of its nature.

The occurrence of scarlet fever in three cases and diphtheria in one has, however, an important practical bearing, inasmuch as the removal of actively inflamed tonsils is advocated by many surgeons.<sup>1</sup>

There are distinct advantages in this practice, since the prominence of an inflamed tonsil affords facilities to the guillotine, which disappears on subsidence of the inflammation, and there do not appear to be any serious disadvantages. In the absence of any anesthetic the operation may certainly be more painful, but it most effectually relieves the temporary angina and the removal is thorough. It may happen that tonsillotomy may be undertaken in the early stage of recognized or unrecognized scarlet fever, diphtheria or other specific fever, and it is maintained by many eminent specialists that not only is no additional risk involved, but that it is an expedient course to take.<sup>2</sup> This may be so if the tonsils alone are removed, but one may presumably doubt the expediency when a large crop of adenoids requires removal in addition, since the formation of so extensive a denuded surface is not unattended with risk.

The incidence of a rash upon any solution in continuity of tissue, operative or accidental, is well known and has been well discussed, but there are a few points associated with this particular operation which may throw some light upon its pathology.

Examination of the blood during the week following the operation has, with few exceptions, afforded me evidence of an increase in number of the mononuclear white corpuscles. This leucocytosis, which rarely lasts beyond the tenth day, may be more than coincidental, yet it is hardly surprising after so great a disturbance of lymphoid structures. The removal of tonsils and adenoids affords a very large area for absorption of toxic matter.

Finally the rash may be interpreted as one of drug intolerance, since most of the cases were taking the usual prescription of sodium salicylate and potassium bromide.

The occurrence of a rash attending tonsillotomy is, I think, a matter of sufficient interest to justify a few remarks, and I trust that you will accept my apology should your experience in America have made you already familiar with the phenomenon.

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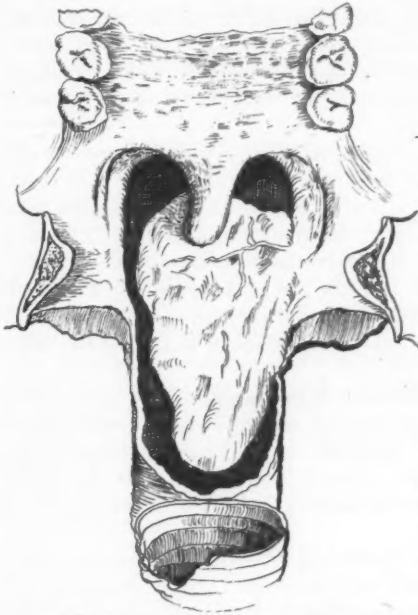
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## REPORT OF A CASE OF MALIGNANT DISEASE OF THE TONSIL.

BY HAL FOSTER, A.B., M.D., KANSAS CITY, MO.

August 23, 1897, Mr. O. presented himself complaining of a large growth in his throat. The patient, a man aged sixty-five, was born in North Carolina, but had lived in Missouri since he was four years



old. His occupation was that of a carpenter. He was married and had lived in a small village all his life. Family history was good. He had always been hearty and strong, but had worked very hard at his trade. There was no evidence of a specific nature. His throat had never troubled him in any way—not even a tonsillitis. He did

not use alcoholic stimulants, but did smoke four cob pipes of tobacco daily for forty years. His tonsil began to enlarge about a year before I saw him. A physician applied pure carbolic acid, which resulted in no benefit.

After this treatment the tonsil grew very rapidly in size, so much so that it greatly interfered with eating. It never at any time pained him, but constantly felt as though a foreign body was in his mouth. There was no soreness or pain. The glands in the angle of the jaw were considerably enlarged. The right tonsil was very large, extending far across the middle line and nearly filling the patient's mouth. He talked with difficulty. His family physician had given him iodide of potash and mercury, with no effect on the growth. A small portion was removed and microscopically examined by a pathologist, who pronounced it cancer. The report was given to the patient and his friends. He was very much opposed to having the tonsil and glands removed from the outside of the neck, stating that he was too old.

They were anxious for me to give him temporary relief by removing the tonsil from the inside. Knowing that it would give him temporary relief and do him no harm, I consented to remove it.

August 25, 1897, assisted by Drs. Blair and Reyling, I removed it. I used every precaution to prevent loss of blood, on account of the disease and the age of the patient. I applied strong solutions of suprarenal capsule and cocaine by means of cotton applicators direct to the diseased tonsil thirty minutes before the operation.

A large Jarvis wire snare was used and the tonsil was rapidly removed. Applications of suprarenal capsule were immediately applied. The base was cauterized by the galvano-cautery. There was scarcely any blood lost during or after the operation. Antiseptic sprays were used and the patient was treated daily for two weeks.

The wound healed rapidly. He could eat and talk much better after the tonsil was removed. It was explained to him that the cancer would surely return. Three months later the tonsil began to enlarge slowly, but did not cause him scarcely any trouble, until two years later when he died from general infection.

I report this case in order to show the unusual large tonsil from malignant disease.

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## A CASE OF STENOSIS OF THE LARYNX FOLLOWING FRACTURES; OPERATION; RECOVERY.\*

BY ARTHUR W. WATSON, M.D., PHILADELPHIA.

Fracture of the larynx is such a rare accident and so often quickly fatal that cases of stenosis following such injury must be very few. For this reason it is hoped that these notes of a case, although showing no especially remarkable conditions, may be of interest. As so little is said of the later results of fracture of the larynx in works on laryngology and general surgery, and as the writer, in a somewhat hasty review of the later literature has been unable to find any similar case recorded, no conclusions as to the frequency of such conditions or the results of operative measures for their relief can be drawn.

The patient, W. C. F., a boy of sixteen years, on May 6, 1899, while riding his bicycle ran into the tail-board of a wagon, striking the neck over the thyroid cartilage, and sustaining a lacerated wound beneath the chin. He went to a nearby hospital where three stitches were put in the chin cut. He was then allowed to go home. The voice was lost immediately after the accident, and he had cough with bloody expectoration, but no dyspnoea. He had also inability to swallow, the food and fluids regurgitating. Pain was slight. The cough and bloody expectoration lasted three days. When he became able to swallow, food would enter the larynx causing paroxysms of coughing.

About six weeks after the accident the patient began to have difficulty in breathing, which increased up to July 14th, when he was taken to Dr. John A. Hearst, of Germantown, who, on the same day, brought him to me.

The condition as noted at the time was as follows:

The patient is pale and anxious-looking; skin bathed in sweat, all mucous membranes pale, pulse weak and rapid, breathing labored and stertorous, the slightest exertion producing increased dyspnoea. The voice is reduced to a hoarse whisper. Examination: Externally some flattening of the thyroid angle, and a recent scar beneath the chin. Laryngoscopy shows: Adhesion between the ventricular bands to within a short distance of their posterior extremities, leaving

\* Paper read at the Twenty-third Annual Congress of the American Laryngological Association, New Haven, Conn., May 27, 1901.

a small opening posteriorly. The supra-arytenoids are drawn together and inwards. The vocal cords cannot be seen.

It was supposed from this examination that the adhesion was the whole cause of the difficulty, and accordingly, under cocaine, the adhesion between the ventricular bands was cut. About one-half was found to be membranous, but anterior to that the knife encountered a mass of dense tissue filling the anterior part of the larynx. The breathing was only slightly relieved. A few days later an intubation tube was introduced, the largest size of O'Dwyer's set. This tube was kept in the larynx until August 24th, when a larger hard-rubber tube was introduced. This tube was kept in until September 5th, but during this time was frequently expelled. On the last date a still larger metal tube was introduced, which proved more satisfactory. It was kept in until October 10th.

But after all this time it was found that no real improvement had been made, as the dyspnoea returned as soon as the tube was removed. It was decided, therefore, to do something more radical. The boy was admitted to the Polyclinic Hospital and a preliminary tracheotomy was done on October 10th. A week later he was sent home wearing the tracheal tube. On the fifth of November, the patient again having entered the hospital, the operation of laryngofissure was done. The patient being etherized an incision was made over the larynx from the hyoid bone to below the cricoid cartilage. The thyroid cartilage was incised in the median line, but the mucous membrane was divided from within, the knife entering below the vocal cords, great care being taken to make the division accurately between them. When the wings of the thyroid were separated it was found that from the thyroid notch to below the vocal cords the cartilage was about a quarter of an inch thick, the thickened portion extending backward about a third of an inch, pushing the ventricular bands upward and the anterior commissure of the vocal cords backward. By the release of the tissues in front the arytenoids became movable. The redundant cartilage was cut away from the wall of the larynx and then shelled out without injury to the soft parts within. In closing the thyroid a catgut stitch was passed through the cartilage and through the ends of the vocal cords and tied. The skin wound was sutured. On the day after that of the operation the voice and laryngeal breathing were good, but later the voice was partially lost and the breathing became less free, on account of the swelling. The patient was allowed to go home on the 13th, still wearing the tracheal tube, but kept under observation. After healing of the parts the vocal cords could be seen to move freely. The swelling of the membrane did not entirely subside for some time, so that the tracheal tube was retained, although it was worn corked part of the time. Later, however, after the tube had been kept corked continuously for about two weeks, it was removed and the tracheal opening allowed to heal. At present the voice is clear and strong and the breathing perfectly free, the boy being able to work and otherwise do as he pleases.

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## EARLY TREATMENT OF MASTOIDITIS.\*

BY CHARLES W. RICHARDSON, M.D., WASHINGTON, D. C.

The question that first suggests itself in the consideration of this subject, the early treatment of mastoiditis, is, In what stage of the suppurative otitis is it proper to consider that the time for this early treatment of the mastoiditis has arrived? This question will be answered by different clinicians according as their views differ as to the limitation of the suppurative otitis and mastoiditis. To the pathologist there is no limitation, for, as is well known, in many cases of suppurative otitis there is in the beginning the presence of pus in the antrum mastoidium, although without a necessary infection of the mucosa or the formation of an abscess within the mastoid. As in many cases of suppurative otitis, with an antrum and cells more or less subjective to the irritation of a purulent discharge surcharged with infective micro-organisms, we have the possibility of infection of the mastoid, therefore we must consider that the early treatment of mastoiditis is to commence with the purulent invasion of the tympanum or attic cavities.

The first and most important indication in the early treatment of mastoiditis would be the early and free incision of the tympanic membrane. The experienced otologist can determine in the majority of cases of infection of the tympanic cavity, immediately after examination and grouping together the symptoms, whether the case is going to terminate as an acute inflammation or suppurate. It is useless to resort to palliative remedies in hopes that the case will subside without suppurating and perforation. It is cruel to allow those individuals to suffer continuously for hours, as well as permit pent-up pus loaded with infectious micro-organisms to continue their destructive activity, when free and early incision not only relieves pain, but limits inflammatory activity and affords an egress for this infective material. The incision through the membrane should be liberal.

The second important indication is rest. I am afraid that too little stress and importance is given to this point in the treatment of these cases. I consider this point of grave importance. Patients

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should be commanded to go to bed and should there remain until all pain has subsided, until the temperature has been normal for several days, and until all tenderness on pressure has disappeared. As secondary indications under this heading, we would suggest the feeding, which should be of a liquid character, and the maintaining of a free condition of the bowels.

The third indication is the care of the purulent discharge. So far as my experience goes, I find that the frequent but gentle irrigation with sterile water, at a temperature of 110 degrees Fahrenheit, not only answers the purpose of removing the purulent discharge and lessening the activity of the micro-organisms, but also gives the greatest comfort to patients. I believe that the less meddling some we are during the first forty-eight hours, the better progress our patients make.

The fourth important indication is to prevent infection of the mastoid or arrest it when it has taken place. This indication is best met by the continuous and persistent application of ice over the mastoid. I prefer the ice bag to the Leiter's coil, as the apparatus is more manageable and the degree of temperature is more evenly maintained. In many cases there is more or less tenderness over the mastoid or about the tip, indicating the necessity of limiting the inflammatory changes within the process. In these cases there is no question about the urgent demand for the use of external cold. It seems that the routine practice of the use of external cold would be of material advantage in all cases. Many cases come under our observation after several days of duration, wherein the perforation has spontaneously taken place, in which the purulent discharge is abundant, the mastoid tenderness is great, and with considerable elevation of temperature. These cases should be treated along lines above indicated, with enlargement of the perforation if necessary, and with persistent and continuous application of ice. The use of ice should be continued as long as there is evidence of improvement. Should the purulent discharge show a lessening and alteration in character, the temperature curve diminish, the expression of the patient show improvement and sleep be more continuous, and the tenderness show lessened intensity or diminished area, the ice should be persisted until complete relief is obtained. On the other hand, should the tenderness show no abatement, the discharge no diminution, the temperature remain elevated, the expression of the patient show no improvement for a period of forty-eight hours after the application of ice, radical intervention becomes essential. The development of edema of the tissues over the mas-

toid or sinking of the posterior superior wall of the auditory canal, indicates the presence of purulent accumulation within the cells, necessitating a radical intervention at once. One should be extremely cautious after the application of the ice, in summarizing the symptoms, not to give too much importance to the apparent improvement in the less essential symptoms, for in so doing one is apt to be badly misled. The symptoms to which the greatest weight should be attached are the lessening and diminution of tenderness to pressure, and the improvement in the character of the discharge. I have several times seen complete subsidence of marked edema, lowering of temperature, and complete abatement of spontaneous pain after application of ice for twenty-four hours; yet on doing the mastoid operation next day have found necrosis of the outer table of the mastoid, with extensive destruction of cellular structure, and cavity filled with pus. I should consider the continuous use of ice to be of greatest value in all recent cases before infection of antrum or cells has taken place, and in those cases of apparent infection in which the discharge is not very copious and muco-purulent in character, and in which the temperature is high. I should consider the earliest treatment for those cases, coming under our observation, with profuse purulent discharge, sinking of the posterior superior wall of the auditory canal, and edema over the mastoid, to be operative intervention at once.

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## THE PRODUCTION OF LOCAL ANESTHESIA IN THE EAR.

BY HOMER DUPUY, A.M., M.D., NEW ORLEANS, LA.

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It is universally admitted that in all operative procedures on the drum membrane the patient is subjected, even though it be of short duration, to agonizing pain.

The pain and shock which accompany surgical work on the ear are now intensified, for the reason, that since a few years, the inadequate simple puncture of the drum has been superseded by the more rational, and certainly more painful, procedure of a *free incision*.

To incise the tympanic membrane, at the best point for drainage purposes, with the ordinary cocaine solutions, thus far used, and recommended by aurists, is, in most cases, an utter impossibility. These solutions do not penetrate an inflamed drum sufficiently to produce that degree of anesthesia required for such delicate, and oftentimes life-saving, surgery. Even the most courageous patients will move at the important moment, with the result that we *sometimes* incise at the point of selection, but *oftener* positively fail.

Every aurist appreciates the difficulties which encompass him on such occasions, and to resort to general anesthesia every time a tympanotomy is performed must, for many reasons, prove inadvisable and inexpedient.

Therefore, any solution which produces complete anesthesia of the drum membrane, and contiguous parts, will fill a long-felt want in aural surgery. It does seem that we are now in possession of this ideal solution.

To Dr. Albert Gray, of England, is due the credit of discovering that a mixture containing: Cocaine, 5 to 10 parts; absolute alcohol, 50 parts; anilin oil, 50 parts, will penetrate the drumhead so rapidly, and so thoroughly, that complete anesthesia is produced in a few moments.

The clinic of the Eye, Ear, Nose and Throat Hospital afforded exceptional opportunities for testing the value of this solution. With the assistance of Drs. Gordon King, A. B. Gaudet, and L. De Poorter, I have recorded fifty cases of acute otitis media in which tympanotomy was performed under this local anesthetic.

Of these cases, thirty received my personal attention. In my first three cases I used a solution containing 10 parts cocaine, 50 parts each of the other ingredients. So complete was the anesthesia that in each instance, while I made a free incision of the drum, the behavior of the patient proved a *prima facie* evidence that there was freedom from pain. Inquiries relative to this point confirmed the observation. But in my fourth and fifth cases I did not obtain this happy result. These two failures induced me to increase the cocaine to 15 parts, which solution I used in a series of ten cases, complete anesthesia being effected in every instance.

In my sixteenth experiment I used the solution of 15 parts cocaine; on touching the drum with the point of the knife, a practice I always adopt before incising, patient resisted, saying it was painful. I did not incise, but allowing about fifteen minutes to elapse, I then instilled a solution of 20 parts cocaine, which proved highly effective, the patient experiencing neither pain nor toxic effects of the drug.

In a series of fourteen cases complete anesthesia was induced with the solution containing 20 parts cocaine, 50 parts each of absolute alcohol and anilin oil. The record of the other twenty cases, operated by my colleagues in the hospital, shows that in every case, but one, the above solution met all the requirements.

It does seem sound logic to infer that if this mixture acts thus on an inflamed and a thickened membrane, it must readily penetrate non-inflamed tissue. Corroboration of this is furnished by two cases of chronic non-suppurative otitis media, in which Dr. King and myself, separately, performed ossiculectomy. In both cases there was absolute freedom from pain.

Such rapid and deep penetration of solutions containing respectively about fifteen and twenty per cent cocaine would seem to increase the danger of drug poisoning. The fifty cases recorded by me do not bear out this inference, for in only *one* instance were any untoward effects noticed, and these were not of a serious nature.

It will be of practical interest to briefly indicate the physical processes upon which depend the penetrating powers of this solution.

Dehydration of the outer layers of the drum membrane is essential in order to effect penetration.

By the abstraction of water from the tissues they contract, leaving interstices through which the fluid passes to the deeper layers, finally reaching the nerve terminations in the innermost layers.

Osmosis, also, plays an important part in this process of rapid penetration.

Now, alcohol and anilin oil are both dehydrating agents, with this difference: that while the latter dehydrates, and is absorbed

more slowly, its effects last longer. The high volatility of the alcohol, and the slow absorption of the oil, concur in producing rapid, yet lasting anesthesia.

In conclusion, I wish to emphasize several points relative to the manner of applying the solution.

As a preliminary step the instillation of hydrogen dioxid in the meatus is very effective in softening and dislodging the loose epithelial tissue on an inflamed drumhead.

The removal of these desquamated cells from the outer surface of the drum, and the washing away of other detritus in the canal, by means of the usual syringing with a warm antiseptic solution, are very important procedures, for the reason that the parts will then offer less resistance to the penetration of fluids.

The next, and all-essential point, is to *fill the external meatus with the solution.*

This is highly important, otherwise osmotic equilibrium is soon established and penetration ceases.

With the patient's head in the usual position of inclination to the opposite side about ten or fifteen minutes must elapse when anesthesia is generally completed.

As most of the anilin oil on the market is dark in color, it will be necessary to dry the canal with a cotton-tipped probe, or pledgets of cotton, so as to have a clear field.

I deem it a good practice before incising to make sure that anesthesia is completed by touching the drum at the selected point with the tip of the knife.

The final deduction from my experience with the anesthetic mixture is, that the solution containing 20 parts cocaine gives the most satisfactory and uniform results.

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## CLINICAL NOTES ON ADRENALIN.\*

BY NORTON L. WILSON, M.D., ELIZABETH, N. J.

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During the summer of 1900 Dr. Jokichi Takamine informed me that he was endeavoring to separate the alkaloid or active principle of the suprarenal gland. In October of that year I called at his laboratory and saw what the doctor designated the blood-pressure raising principle of this gland. He submitted to me, for inspection, a grayish-white powder, which, under the microscope, showed needle-shaped crystals.

It was sparingly soluble in water, but dissolved readily in dilute acid. A solution of one to ten thousand parts in water was made and dropped into the doctor's eye. He assured me that he had himself introduced it into his own optic on several occasions without injury. In its basic form it absorbed oxygen from the air so rapidly that it was necessary to make a salt of it, and for this purpose hydrochloric acid was added, and as a result thereof there was obtained a chloride.

The active principle thus isolated had not then been named. Upon the suggestion of the writer the name "adrenalin" was given to the newly-discovered product, and under this name it is placed upon the market by its manufacturers, Parke, Davis & Co.

Three solutions were made: one of one part to ten thousand; one of one part to five thousand and one of one part to one thousand. At present the only solution manufactured is that of one of one part to one thousand. To these solutions of adrenalin chloride the manufacturers have added one-half of one per cent of chlore-tone, for which they claim a slight anesthetic and antiseptic action.

It is also manufactured in tablet form with sodium chloride, and in this form tartaric acid is used instead of hydrochloric acid, making it a tartrate of adrenalin. The tablets are very soluble in water, and when added to one drachm of water make a solution one to one thousand. In this form they are most convenient for use. In the form of solutions contaminations soon follow, especially if a drop-

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per is frequently introduced. Sterilization can be effected by boiling without apparent injury to the solutions, but the tablets are more desirable because they can be used from time to time as occasion requires for making fresh solutions in small quantities.

It is unnecessary to furnish you with a tabulated statement of the number of cases in which the writer has used adrenalin.

It has been used freely by him in cases affecting the eye, the nose, the throat and the ear. For the eye he has used the solutions of one part to ten thousand and of one part to five thousand only, reserving that of one part to one thousand for the nose, throat and ear.

His experience shows that one drop instilled into the eye produces a slight smarting sensation for about twenty seconds, during which time there is a noticeable hyperemia of the conjunctiva. This soon disappears and the blood is rapidly driven out of the vessels. In forty seconds the entire conjunctiva is blanched almost white. This anemia is not only present in the ocular conjunctiva, but also in the palpebral. This marked contraction of the blood vessels lasts about one hour, after which time the vessels gradually resume their normal appearance. The use of these solutions has shown no appreciable effect upon the cornea or pupil. No drying of the epithelium of the cornea, like that produced by cocaine, or dilatation of the pupil has been observed, and no anesthetic properties have manifested themselves. So far as could be noticed the sympathetic nerve was not stimulated and the palpebral fissure remained unchanged, while the tension of the eyeball was neither increased or diminished. As a result of its use cocaine or holocaine anesthesia is much deeper than it otherwise would be. This was first noticed in making iridectomies. This is due, it is believed, to the depletion of the vessels and the opportunity offered the anesthetic to penetrate the tissues.

In acute plastic iritis a more rapid and decided effect will be obtained from the use of atropin by the application of a few drops of adrenalin.

The writer has used it with success in the removal of pterygium, lipoma, chalazion, squint operations, foreign bodies under the conjunctiva, and especially in the dilatation of the lachrymal duct. In acute contagious or chronic catarrhal conjunctivitis he has found it to be of little or no permanent benefit.

Your attention is especially called to its application to the nose and throat. If applied to the interior of the nose it blanches the membrane almost immediately. In the examination of the naso-



pharynx it will be found to be of great assistance because it contracts the tissue of the turbinates so thoroughly as to enable one to look through the nostrils into the naso-pharynx. In profuse bleeding it is of little use as it is rapidly washed away, unless a soaked pledget of cotton is packed into the nostril. After a few minutes the cotton may be removed and the hemorrhage will have ceased, especially those annoying hemorrhages from the septum.

In acute coryza it will relieve the swelling of the turbinates almost immediately and stop the profuse watery discharge. For temporary relief in hay fever it has no equal and is less apt to produce irritation than the solutions of the suprarenal gland.

In a case of acute laryngitis, coming under our observation, where there was a loss of voice and considerable pain during the act of deglutition, the voice was restored in twenty-four hours and the pain very materially lessened with five applications of the spray.

In acute pharyngitis and tonsillitis the relief is immediate and more lasting if its use is combined with that of cocaine or eucaine.

Every operation within the nasal chambers can be made bloodless, or nearly so, by the use of adrenalin, but it must not be forgotten that within an hour thereafter there will follow some bleeding. The bleeding will be no more than it would have been during the operation if adrenalin had not been used. If you desire to control the hemorrhage you must give the patient a solution (one part in five thousand) to be used at home for two days.

In la grippe and other acute inflammations of the nasal mucosa, where the outlets to the accessory sinuses are occluded, it is valuable in relieving the swollen mucosa and thus draining the sinus. In operations affecting the ear, the writer's experience with adrenalin has been limited to the removal of polypi and granulation tissue, except in those cases where he has passed a few drops into the Eustachian tubes for the purpose of facilitating the introduction of a bougie.

Adrenalin is best used in combination with cocaine or holocaine by first applying the former, followed immediately by the cocaine. I have never seen a case of cocaine toxemia when used with adrenalin.

It can be boiled and thus made sterile. It does not interfere with any other treatment which may be desirable as supplementary. Its use keeps the field of operation free from blood.

It is more certain in its physiological action because you can graduate the dose.

It is clean, being free from foreign matter, and thus the preparation is more stable and less likely to decompose.

I do not use it in powder form, as it causes sneezing and is much more irritating than the solution.

So far as has been observed no harm has come from its liberal use and the writer believes that it is a most valuable addition to our pharmacopœia.

In conclusion, I ask your indulgence while I briefly describe two cases where adrenalin was administered internally with good effect. Incidentally it may be said that the best way in which to secure good results is by absorption from the mucous membrane of the nose or mouth and not by the stomach.

The first case to which your attention is called was one of scurvy with profuse hemorrhage from the nose which had been previously packed and which had continuously oozed during the twenty-four hours preceding the time when the patient was seen by the writer.

Ten drops of the solution of one part to five thousand was put into his mouth every hour until thirty drops had been absorbed when the hemorrhage ceased and the packing was removed.

The second case was that of a pregnant woman having a profuse hemorrhage from the nasal septum of the right side. This was controlled with a Simpson's compressed cotton tampon. At the end of a week the hemorrhage occurred in the left nostril, the control of which was attempted in the same manner, but there was a continual ooze, and the patient was very weak from the loss of blood. She complained so bitterly of the pressure of the tampon that resort was had to ten drops of the solution of one part to one thousand. This was put into her nose four times a day. The hemorrhage promptly ceased, the tampon was removed, and fearing a return of the bleeding adrenalin was dropped into the nostril for several days.

There have been no more hemorrhages.

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## A NEW CUTTING FORCEPS FOR OPERATING IN THE POST-NASAL SPACE.

BY WILLIAM F. CLEVINGER, M.D., INDIANAPOLIS, IND.

Taking the various pathological conditions found in the nasopharyngeal space requiring operative procedures, we have, generally speaking, to choose between the cutting forceps and the curette. We all know that the curette is applicable to the soft adenoid tissue, but it is questionable if it is the proper instrument where there is a genuine hypertrophy of the tonsil fibrous in character. Personally I think it a practically useless instrument in the above-mentioned condition. The question then arises regarding a forceps. Undoubtedly the most frequently used and advocated forceps is the Gradle,



but there are, in my opinion, some points about this forceps that may be improved upon, such, for instance, as the curve, which is entirely too short to reach the vault in many adult cases. The handle is plain, without thumb and finger holes, making it difficult to manipulate.

Numerous other forceps on the market have so little cutting surface that many pieces must be removed, hence making the operation tedious and in every way undesirable. Again almost all are

made so close between the blades that it is difficult to operate without injuring the uvula.

Taking a number of instruments I have tried to improve upon other points that I regard as being especially undesirable. The



forceps, of which there is a cut below, I have designed for operating on a certain class of adult cases where there is a high vault and in which there is a fibrous tonsil.

Such cases can only be satisfactorily treated by removing the gland, and but little satisfaction is obtained unless a clean operation is done. It has been my experience that such a result is most difficult to obtain with the average cutting forceps found on the market.

The Indianapolis Surgical Instrument Company are makers of this instrument.

## SOCIETY PROCEEDINGS.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting May 22, 1901.

W. K. SIMPSON, M.D., Chairman.

#### **Epithelioma of the Larynx.**

DR. FRANCIS J. QUINLAN presented a specimen of epithelioma of the larynx. It sprang from the posterior wall and was not visible at first sight, so that it was suspected that the woman was a malingerer, she having at that time but one symptom, dysphagia. As the growth was of the inoperable type it was thought best to ligate and excise the carotids by the method of Prof. R. H. M. Dawbarn. The procedure consists in tying all of the branches of the external carotid. At the operation an anomaly of the bifurcation was present, so that many branches of this arterial supply could not be included in the ligature. The growth increased rapidly in spite of the operation, and the woman had died of exhaustion. Dr. Brewer, of the City Hospital, had operated upon four cases of this class of tumor within the past six months, and all the growths have shown a remarkable degree of atrophy. The operation on this patient was done by Dr. Collins.

DR. W. K. SIMPSON said that Dr. Brewer had operated upon one of his cases, with the result that there had been an exceedingly rapid decrease in the size of the epithelioma. Subsequently the growth had increased, and the final outcome of the case was not known. He was inclined to think that there was a future for this operation.

DR. M. D. LEDERMAN referred to a case of small round-cell sarcoma of the nose, which had been operated upon by Dr. Dawbarn. After ligating the external carotid on one side the tumor had shrunk remarkably within a period of two months. The growth had been subsequently removed along with the maxilla. In spite of the ligation of both carotids there had been considerable bleeding at the time of this last operation.

DR. J. W. GLEITSMANN asked if there was one authentic case on record in which a true carcinoma, not sarcoma, of the larynx had been permanently cured simply by ligation of the external carotids.

DR. QUINLAN said that Dr. Dawbarn now had under observation

four or five cases. The diminution in the size, the restoration of function and the general improvement in the patients showed that much good had been accomplished in this otherwise hopeless type of cases. This operation had been abandoned by Dr. Bryant many years ago, and great credit was due Dr. Dawbarn for having not only revived this operation, but improved and carried it forward so enthusiastically in spite of much adverse criticism.

#### **Angio-fibroma of the Nose.**

DR. JAMES E. NEWCOMB exhibited a drawing which Dr. Jonathan Wright had had made for him of a specimen taken from one of his cases. The patient was a boy of twenty-one, who for seven months had simply complained of nasal stoppage. On the first examination there seemed to be hanging from the left middle turbinate an ordinary polyp. At the first attempt to remove the growth with a cold wire snare it had pulled the wire out of the canula, and on the second attempt the wire had broken through. At a subsequent attempt a small piece had been removed, but its removal had been attended by extremely profuse bleeding.

DR. JONATHAN WRIGHT said that the growth was an extremely rare one in his experience. Many reported cases of fibroma had more or less glandular tissue and blood vessels in them, and were really instances of fibrous hypertrophy. The case now under discussion, and one presented some years ago by Dr. Knight, were the only examples of true fibroma of the nasal cavity of which he had any knowledge. The growth had been supposed to be malignant, but there was nothing of that character about the fragment of tissue removed.

#### **Hypertrophy of the Lingual Tonsil.**

DR. W. K. SIMPSON exhibited a specimen of hypertrophy of the lingual tonsil. He had removed it from an adult male about two weeks ago, and presented it because of its large size. The same patient had had removed extensively hypertrophied adenoids and faucial tonsils, showing that the whole chain had been affected. He had removed the specimen with a large lingual tonsillotome, and as he had used adrenalin there had been practically no bleeding.

DR. BEAMAN DOUGLASS presented a man having carcinoma of the accessory sinuses, probably beginning in either the ethmoid or the antrum. When first seen there had been a suborbital growth on the left side and the left nostril had been obstructed by a polypoid growth. On removing one of these an apparently malignant growth had been disclosed. Further examination showed entire destruction

of the lateral wall of the nose. The superior maxilla was perforated by the growth. Under ether, the growth was scraped out, an opening made and the entire antrum scraped out. The ethmoid cells were also found infiltrated. The curettage was carried backward as far as the sphenoid. The rapidity of development was interesting, the patient having suffered pain only three or four weeks. Three days after having been scraped out, the whole portion not packed with gauze had been filled with a recurrence of the growth. From the fact that the ethmoid and sphenoid were both affected there seemed to be no advantage in further surgical intervention.

#### **A Case of Acquired Syphilis.**

DR. BEAMAN DOUGLASS presented a girl, eight years of age, showing the ravages of acquired syphilis. According to the history, a syphilitic in the same house had used a towel which had afterward been used by the child after she had picked her nose. The whole mouth was deformed and the lip everted. The whole palate and septum had ulcerated away, and the nose and mouth were one cavity. From the use of peroxide of hydrogen and local applications of black wash and calomel satisfactory progress had been made. In such cases the immediate effect of plastic surgery was good, but all the benefit thus obtained was usually lost subsequently.

DR. J. E. NEWCOMB said that he had had this child at one time under his care, and had been unable to obtain any definite history. The child had been placed on the iodide; later on, mercurial inunctions had been used, with peroxide of hydrogen and black wash locally. She had failed to improve, and he had become convinced that the child was not getting her medicine regularly and was generally neglected. Those in charge of the child would not consent to her removal to a hospital. The last time he had seen her had been about two months ago, and then the lip had not quite sloughed through, but there had been a sloughing ulcer reaching nearly down to the vermilion of the lip. The appearance of the nose had been then very nearly what it was now, and the probe had detected a loose sequestrum, which had afterward separated. He had looked upon the case as one of inherited syphilis.

DR. GLEITSMANN spoke of an obstinate case of this kind which had been greatly benefited by a friend who had made use of sub-muscular injections of insoluble salts of mercury, given once a week. He would suggest that this treatment be used in the case under discussion.

#### **Orbital Abscess.**

DR. W. N. HUBBARD presented a patient with an orbital abscess, which had developed after an attack of tonsillitis. The latter had



commenced on April 10th, and after four or five days the upper lid of the right eye had begun to swell. About April 25th there had been considerable periostitis at the margin of the orbit, and finally an abscess had formed. This had been opened, and a drainage tube inserted into the ethmoid cells. The abscess seemed to have originated from infection transmitted through the anterior ethmoidal foramina. Apparently there had been no involvement of the frontal sinus. The operation had been done about four weeks ago, and after this there had been marked exophthalmos, but it had subsided after some days. The patient had been taking care of a child who had developed a scarlatina a few days after the tonsillitis had appeared.

DR. JONATHAN WRIGHT said that he had seen one case in which infection of the antrum had followed an attack of quinsy sore throat. It would be interesting in the present case to see if recovery would ensue without a radical operation. Certainly spontaneous recovery seemed very problematical. A very large proportion of the cases of sinus disease certainly recover spontaneously, and some of the chronic cases, yet in this case it seemed probable that it would be necessary to raise a flap and scrape out a new passage into the cells.

DR. SIMPSON remarked that from the acuteness of the attack, and its association with tonsillitis, he was disposed to think it was an example of infection with the influenza bacillus.

#### **Tumor of the Larynx.**

DR. A. B. DUEL presented, through the courtesy of Dr. Poor, of Orange, N. J., an Italian, thirty-four years of age, a hatter by occupation. There was no family history of tuberculosis and an uncertain history of syphilis. In June, 1900, he had had an attack of hemoptysis, and in January of the present year the voice had become husky. In March he had become completely aphonic. He had taken as high as three drachms of iodide daily. On May 14th to 16th he had had an acute hemoptysis, and an occasional moist rale had been audible at the apex. There had been a slight febrile movement. Examination showed a large tumor in the larynx below the left vocal cord, and this had not apparently decreased under the iodide treatment.

DR. WOLFF FREUDENTHAL said that at first glance this case had impressed him as tuberculous. The lesion in the larynx showed infiltration of both ventricular bands, and there was a spot below the glottis.

DR. WRIGHT said that it seemed very singular that the larynx should be pushed over to the side on which the tumor was. Possibly

the growth was principally behind and it pushed the posterior border of the thyroid cartilage over, thus turning the larynx on its vertical axis. There was a white spot below the cord that might be a gumma or simply an anemic spot.

DR. SIMPSON said that, in his opinion, there were a great many instances in which, from the mere appearance, it was impossible to make the differentiation between tuberculosis and syphilis. The hemoptysis, loss of flesh and the slight fever all pointed towards tuberculosis in this case.

#### **Tuberculosis of the Larynx.**

DR. W. K. SIMPSON presented a young woman whom he had had under observation since last October. He looked upon the case as undoubtedly one of tuberculosis of the larynx. It was interesting because one process in the larynx was in excess of that in the chest. She had had attacks of cough with emaciation, and had recovered from them. Last October her voice had become aphonic, and examination had shown slight ulceration of the left vocal cord. It had gone on to extensive ulceration and swelling of both arytenoids. She had had occasional cough, but no pain and no hemorrhages. Her chest had been repeatedly examined by experts, but it was only a week or two ago that any change in the apices of the lungs had been found. A recent examination showed tubercle bacilli in the sputum. She had been taking internally very large doses of creosote along with Russell's emulsion, and her general condition was decidedly better. The creosote was taken in capsules, two capsules containing five grains each being taken at a dose, and followed by a glass of milk.

DR. FREUDENTHAL said that the deep coloring of the larynx, together with the marked anemia of the epiglottis, gave a clear picture of tuberculosis of the larynx.

DR. BEAMAN DOUGLASS said that he did not believe in the existence of primary tuberculosis of the larynx, except as a result of direct infection by instruments. He recalled some cases which he had intended to present to this Section as examples of primary tuberculosis. Several pulmonary experts had examined them, and had confirmed this view, yet the patient had died unexpectedly, and at the autopsy the lungs had been found absolutely riddled with miliary tubercles which had not been detected by the physical examination.

DR. WRIGHT said that at least two cases were on record in which persons had died from some other disease, and the examination had

shown a primary tuberculosis of the larynx without any involvement of the lungs.

DR. GLEITSMANN reported two cases in which he had cured the laryngeal and the pharyngeal tuberculosis. No tuberculosis of the chest had ever been found. One had been cured for three years, and the other for twelve years, and both patients were in better health now than ever before. If a person lived in perfect health for so many years he contended that this was good proof that the tuberculosis had been primary in the larynx. This mode of proof was comparable to that generally accepted in the case of cured cases of cancer.

DR. WRIGHT said that it was not uncommon for pulmonary tuberculosis to be recovered from, while it was exceedingly uncommon for recovery to take place from laryngeal tuberculosis. It was possible, therefore, in the cases reported, that there had been a slight pulmonary tuberculosis which had also been recovered from spontaneously. Even with an autopsy it was usually impossible to say whether the tuberculous process had developed first in the larynx or in the lungs.

DR. GLEITSMANN spoke of the use of tubercle serum for establishing the diagnosis of tuberculosis. The patient should rest for two or three days and the temperature be taken every two hours. A tuberculin injection should then be made, and the temperature watched closely. If previous physical examination of the chest had revealed a suspicious spot with rough rales, the tuberculin would probably bring out moist rales at this spot. Another test not very well known was the application of a solution of methylene blue to the larynx in the strength ordinarily employed for staining. The color would be quickly absorbed in spots which had lost their epithelial covering.

DR. WRIGHT thought it was a fact that a case of pulmonary tuberculosis might recover and give no symptoms for years, and still carry around tuberculous glands which would cause them to react to tuberculin. Under such circumstances it could hardly be considered fair to look upon such a case as clinically tuberculous because of the reaction to tuberculin.

DR. GLEITSMANN replied that it was certainly true that a reaction with tuberculin might only mean that there was some tuberculous tissue in the person's system, but this admission did not vitiate his contention about primary tuberculosis of the larynx.

DR. BEAMAN DOUGLASS said that, according to his experience, Löffler's solution of methylene blue readily stains the normal tissues of the larynx, and this being the case the methylene blue test mentioned by Dr. Gleitsmann would not be of any value.

DR. M. TOEPLITZ referred to two patients having ulcerations in the larynx, but no lesions in the lungs, thus leaving him in doubt as to the diagnosis. A great many examinations had been made by himself, and in only two had he found any tubercle bacilli, and then only a very few.

## AMERICAN LARYNGOLOGICAL ASSOCIATION.

The Twenty-third Annual Congress of the American Laryngological Association was held in New Haven, Connecticut, May 27, 28 and 29th, 1901.

THE LARYNGOSCOPE presents herewith authors' abstracts of the papers of this meeting.

### **Chancre of the Tonsil, with Report of Thirty-five Cases—JOHN EDWIN RHODES, M.D., Chicago.**

The author refers to Bulkley's collection of 9,058 extragenital chancres, including fifteen cases occurring on the tonsil that were seen by Bulkley.

C. M. Hopmann's presentation of the subject in Heymann's *Handbuch der Laryngologie* is also considered, and Muenchheimer's record of 10,265 extragenital chancres, including Bulkley's list is mentioned. Among these cases 504 tonsillar chancres were found, or an average of about five per cent.

Dr. Rhodes' inquiries among laryngologists lead him to think that these statistics may be misleading as many of those asked for records of cases had never seen a tonsillar chancre. He thinks it probable, however, that often these lesions are not recognized. The frequency of the innocent acquirement of syphilis is emphasized.

The situation and structure of the tonsils make their infection easy, as the negative pressure induced by swallowing or suction draws the virus into the crypts. A previous abrasion or diseased state of these is probable, though Bosworth's idea, that permanence of contact of the poison in the depths of the follicle favors inoculation, is plausible. Among modes of infection, kissing is the commonest. Bestial practices, Eustachian catheters, spatulæ, dentists' tools, pipes, drinking vessels, feeding or nursing children are commoner modes of conveyance of syphilis. Two varieties of initial lesion are mentioned. In one the affection is so slight that it may be overlooked until secondary symptoms appear. In the other the pathological process is marked with decided pain in swallowing or speaking, radiating to the ear.

The whole tonsil is swollen, congested and surrounded by a zone of hyperemia. It is not so much inflamed as hard and infiltrated, and the contiguous glands present as firm masses, are often of large size, and at times tender to pressure.

The ulcer on the tonsil is superficial, with a layer of necrotic, yellowish detritus on its floor. Malaise and fever may be present. The process may become phagedenic with mixed infection. The chancre usually disappears in from four to six weeks.

Dr. Rhodes presents the history of three cases. The first occurred in a man of thirty-four. It began with swelling of the right submaxillary lymph glands and soreness of the tonsil. The condition was diagnosed by the man's doctor as simple tonsillitis. In the course of three weeks the disease became progressively worse, the throat becoming very sore, with severe pain radiating to the ear, making opiates necessary. Lancing the tonsil was of no avail. The patient thought that at this time an ulcer was present in the throat. Three weeks after infection an eruption showed itself, but soon disappeared. When seen by Dr. Rhodes he had pronounced pain in the right side of the throat in swallowing and on pressure. The submaxillary gland was swollen, hard and tender. Examination showed the right tonsil a good deal enlarged, hard to the touch of the probe. Its entire surface was covered with dirty yellow secretion and no apparent loss of tissue. There was a similar yellow patch on the posterior pillar and edge of palate. Microscopic examination of a specimen showed simply inflammatory infiltration. Iodide of potassium and the local use of tincture of iodine resulted in rapid improvement, so that in ten days the ulcer was healed. In the tenth week he developed a macular and papular eruption. This improved under mercurials. The source of infection in this case was probably kissing a woman who had an eruption on her face, which she attributed to "poisoning in the woods."

The second case, a man of twenty-nine, when first seen had had a sore throat for five days. There was swelling of the left tonsil with marked pain, which grew worse, so that when he made his first visit the patient felt quite ill. The gland at the angle of the jaw was of the size of a walnut and tender. The left tonsil was swollen and felt hard to the probe. In its center there was a yellowish-gray patch about three millimeters in diameter. Local treatment was of no effect, and after five weeks a macular eruption appeared with a palmar syphilide. Under mercurials the chancre then began to disappear and rapid improvement occurred. No source of infection could be found.

The third case was that of a female singer, age thirty-two. She was seen in the clinic at Rush Medical College. Six weeks before she had noticed a swelling in the neck at the angle of the jaw on the right side, which grew rapidly and became hard and tender, the pain radiating to the ear. The swelling in the neck remained the sole symptom for four weeks. Then she began to have sore-throat and dysphagia, so that she could only take soft foods. The patient had been drinking from the same glass with a syphilitic bartender, and he had often kissed her and put his tongue into her mouth. Examination showed an adenopathy at the right angle of the jaw. The right tonsil was hardly larger than normal, but was deeply seated between the pillars. Pulling forward the anterior pillar with a blunt hook, a small ulcerated surface with gray base could be seen. This was invisible when the pillar returned to its normal place. The lower part of the tonsil felt indurated. A

macular syphilide, covering the chest, trunk and arms, appeared three days after her appearance in the clinic. She was placed on mercurial treatment and is still under observation. There was no genital lesion.

In addition to these cases of his own the author has collected a list of thirty-two hitherto unreported. Of these twenty-one were males and eleven females. In fifteen of these cases induration is not mentioned by the correspondents although it may have been present. A case reported by De Roaldes was much like the author's last case, as the tonsil was encapsulated by the pillars. In one case both tonsils, and in another these and even the lingual tonsil were involved. The ulceration found was generally slight or moderate, but some tonsils presented deep or large ulcers. Induration was a more prominent feature than ulceration, which in no case was destructive. One tonsil is described as enormously enlarged.

Adenopathy is not mentioned in the report of two cases. In all the other reports bubo was a characteristic feature. The submaxillary glands were most often enlarged, but the cervical, post-cervical and sublingual ones are also mentioned. The glandular enlargement varied from insignificant nodules up to large indurated pockets of the size of a turkey's egg. In some cases the enlargement is spoken of as enormous.

In six cases kissing was the cause of inoculation, in four bestial practices, in twelve cases the cause is unknown, in three introduction of the tongue into the mouth carried the disease. Mediate conveyance of the disease occurred six times by means of pipes, cigar-cutting machine, drinking vessels, and in one case by means of dentist's instruments and in another by a bistoury used to open a tonsillar abscess.

Dr. Rhodes' paper again calls attention to the frightful contagiousness of syphilis and to the frequency with which it is carried to innocent persons. It is surprising, in the many manipulations in dentists' offices, in the constant use of clinical thermometers, throat and nose instruments, etc., that syphilis is not conveyed oftener than it is. It is, of course, advisable to have a separate set of instruments for known syphilitics, but how often do we find that the examination of a new case has contaminated them before we are aware of the existence of lues. Suitable methods of rapid disinfection should be employed by every operator after the treatment of every case.

The patient with syphilis is to be warned that he is acting with criminal carelessness unless he separates himself from his fellows as much as possible while the disease is contagious, and is to have the separate use of cups, towels, napkins and other utensils enjoined on him.

**Empyema of the Antrum of Highmore in Young Infants—**

EMIL MAYER, M.D., New York City.

The apparent rarity of this affection, judging from the few cases on record, due, in all probability to the difficulties in the way of diagnosis, the remarkable unanimity of the symptoms in the cases diagnosed as such, the original methods employed for their cure and the all too brief mention or complete omission in most text-books, should make the study of empyema of the antrum of Highmore in young infants of increasing interest to the rhinologist.

Not more than a dozen cases are to be found in literature and the writer presents a case of his own which occurred in a child aged two and a half years, in whom the general symptoms noted were eversion of the right lower lid, fistulous opening in the cheek on the right side from which pus exuded and a most penetrating odor from the same side of the nose. Child had been well until six weeks before, having been seen when an attack of scarlet fever and pneumonia occurred; two weeks later a very severe nasal diphtheria was present; subsequently an abscess formed on the cheek which was incised and a fistulous opening remained. At the time of the examination a small probe entered the fistulous opening and revealed the presence of a large cavity in a downward direction and had the feel of necrotic bone; examination of the pus showed streptococci and staphylococci in abundance; no Klebs-Löffler nor tubercle bacilli were found. The diagnosis of an abscess of the antrum of Highmore with diphtheritic infection, was made. The child was operated upon and recovered.

Another case is presented by the writer, the main facts of which were communicated to him by Dr. W. B. Platt, of Baltimore. Six other cases were found in the literature, all of them due to infection.

An interesting discussion has been raised regarding these cases as to whether these are simply carious conditions, that is tubercular, or an osteomyelitis. Reports of bacteriological examinations have been made by various observers, notably Moritz Wolff, of Germany, and Richard Mills Pierce of this country.

The writer concludes that it is established beyond question of doubt that empyema of the antrum of Highmore in young children is not merely caries or tuberculosis or an osteomyelitis, but is as distinct an affection as in later life. That so few cases are noted in the living is in all probability due to the fact that the mortality is greatest when this complication occurs and also that in the very young the presence of localized pain is so difficult to establish as the little sufferer cannot indicate it.

In all the reported cases the symptoms were the same; namely, fistula under the eye usually discharging pus, ectropion, one sided purulent discharge from the nose with foul odor and eroded bone.

Careful observation, especially in nasal diphtheria when the bacilli are present, may enable us to discover these cases and by prompt attention, recovery result.

Regarding treatment, incision, curettement and through drainage will be followed by complete cure in the vast majority of cases.



**General Anesthesia in Operations upon the Nose and Throat—**

J. W. GLEITSMANN, M.D., New York.

In the use of the A. C. E. mixture and ethyl bromide for adenoid operations the author employed the A. C. E. mixture up to 1894, and gave it in the usual manner to the child lying on a couch, raising it carefully to the upright position, in which he performs all his adenoid operations. The only accident he had was a short lasting attack of suffocation caused by the tight band of a shirt, which had not been removed.

His attention having been drawn to the advantages of ethyl bromide by Moritz Schmidt in his text-book, 1894, he uses it now almost exclusively, and quotes the literature from 1884 to 1900. He prefers Merck & Co.'s preparation and administers a sufficient quantity with an impermeable mask, to produce complete narcosis, generally less than 30 grams being necessary. He always narcotizes his patients, and in 500 operations had only two accidents—one of a secondary hemorrhage, controlled by the family physician and one of sepsis, which kept the child ill for four weeks.

He lays great stress on the assistance during the operation and in private practice almost always employs the same assistants, who therefore are perfectly familiar with his manner of operating. The latter is briefly as follows: The child is held in the upright position by one assistant, whilst the other gives the bromide. Having had a few recurrences of the adenoids when using the curette alone, he removes the growths now first with his post-nasal forceps, and then the remaining ridges with the curette. He instructs his assistants to lower the head of the child quickly to allow the outflow of blood after removal of the instruments, and if necessary repeats the same proceedings till the naso-pharynx is perfectly clear. He never saw any ill results from operating in the upright position, never had any blood enter the trachea and feels perfectly safe to recommend his procedure when the necessary precautions are observed.

**The Effects of Cinchonism Upon Vocalization and Articulation—**

CARL SEILER, M.D., Scranton, Pa.

The author found in the first place that the ordinary tinnitus aurium due to middle ear disease never transgressed the limits of pitch from D 1 (297 vibrations as the lowest point) to F 2 (704 vibrations) as the highest, as near as it was possible for him to determine, and that the subjective noises, although variable in quality or timbre, had no appreciable effect upon vocalization or articulation, but that they would invariably and very materially affect the perception of sounds which had the same or nearly the same number of vibrations per second as the subjective noises of the patient. The subjective noises due to quinine, salicylate of soda, alcohol, ether and many other drugs were invariably of a very high pitch, varying from as low as the G 3 (1584 vibrations) to as high as B 4 (3960 vibrations), and often even higher. He also

observed that any composite noises of high pitch not only interfered with the pronunciation of those consonants which, according to the investigations of Helmholtz and others have for their characteristic sound a combination of high-pitched sounds, such as "th," "S," "Sh," "Z" and the like consonant sounds of articulate speech, but also caused them to be easily obliterated and consequently most difficult to appreciate and be recognized by the ear. The high pitched subjective noises in the ear produced by drugs and which are not due to mechanically produced sound waves of the air, also materially interfered with the pronunciation of the high-pitched consonants to an interference which would indicate that subjective or mental sensations are to some extent material, otherwise they could not interfere with a purely mechanical process such as articulation.

**Retrograde Metamorphosis in the Fauical Tonsils—J. L. GOODALE, M.D., Boston, Mass.**

The results of this investigation show that retrograde metamorphosis in the faucial tonsils begins in the regions where the connective tissue originally predominated, namely, in the trabeculae and fibers of the capsule. It may progress either along the trabeculae, in the form of an irregularly distributed sclerotic process, or in a more homogeneous and symmetrical manner, proceeding from the base of the organ towards the mucous membrane of its free periphery. In the sclerosed areas, the endothelial cells of the reticulum exhibit less evidence of proliferation, and become fewer in numbers. Later those forming the germ center of the follicle entirely disappear, and there is left to represent the follicle merely a heap of lymphoid cells, which progressively decrease in number, until finally the former site of the follicle is occupied wholly by connective tissue, in which fat may be deposited. The follicles most remote from the crypts experience the greatest amount of atrophy, while those nearest the crypts, and those particularly nearest the orifice of the latter, preserve correspondingly best their functional activity.

**A Case of Stenosis of the Larynx Following Fracture; Operation; Recovery. ARTHUR W. WATSON, M.D., Philadelphia.**

This paper appears in full in this issue of THE LARYNGOSCOPE. Page 55.

**Four Cases of Tumors—J. E. NEWCOMB, M.D., New York.**

Dr. J. E. Newcomb related the clinical histories of four interesting cases of tumors coming under his recent observation and exhibited drawings of the various growths.

*Case I* was an osteo-sarcoma of the inferior turbinate, occurring in a colored man of forty-one years who had complained only of

nasal obstruction. There was apparently a bony adhesion between the nasal septum and the right inferior turbinate. A core of bone was removed by the trephine. Examination revealed a sub-epithelial layer of spindle-celled fibrous tissue with characteristic sarcomatous arrangement of the cells. In places a double row of osteoblasts were visible, though they had not yet extruded, lime salts thus appearing amorphous rather than truly bony. In view of the nature of the growth, the patient was urged to undergo radical operation, but refused.

*Case II* was a true papilloma of the nasal septum. Dr. Newcomb alluded to the paper of Dr. Arrowsmith, of Brooklyn, appearing in *THE LARYNGOSCOPE*, November, 1897, and stated that he had been able to find records of nine additional cases reported since the date of Arrowsmith's paper.

*Case III* was sarcoma of branchial cleft occurring in a man of sixty-five years. Two years ago a swelling appeared on the right side of the palate and gradually encroached upon the oral cavity. It was tense and elastic in feel and, on tapping, yielded a bloody serous fluid. It was dissected away from its attachments from the outside, there being no wound made in the mouth. The operation was performed by Dr. R. F. Weir, to whose service in the Roosevelt Hospital the patient was admitted. The patient made a good recovery.

*Case IV* was a rare one of angio-fibroma of the nose, probably arising from the left middle turbinate. The patient was a young man of twenty years who for seven months had complained of nasal obstruction. From the front the tumor looked like an ordinary polyp, but in the post-nasal space it was visible as an irregular projection. Attempts at removal of a piece were followed by profuse hemorrhage. The growth was so hard that the wire loop of the snare broke several times before a fragment was finally secured. The patient refused to have anything further done.

In conclusion Dr. Newcomb expressed his thanks to Dr. Jonathan Wright, who had kindly examined the specimens from the cases presented, except that of the bronchial cyst examined in the laboratory of the medical department of Columbia University.

**Tonsillotomy Rash.** WYATT WINGRAVE, M.D., London.

This paper appears in full in this issue of *THE LARYNGOSCOPE*. Page 51.

**Serous Disease of the Maxillary Antrum, With Report of Two Cases.** W. E. CASSELBERRY, M.D., Chicago.

This paper appears in full in this issue of *THE LARYNGOSCOPE*. Page 43.

(To be continued.)

## LARYNGOLOGICAL SOCIETY OF LONDON.

SIXTY-SIXTH ORDINARY MEETING, MAY 3, 1901.

E. CRESSWELL BABER, M.B., President, in the Chair.

### **Case of Large Laryngeal Growth Shown at a Previous Meeting.**

Sown by DR. BARCLAY BARON. It was generally agreed that the growth was attached by some sort of pedicle, and that its removal through the mouth would be easy. At the operation it was found quite impossible to remove it in this way, as the growth was a widely infiltrating epithelioma with no pedicle at all, the epiglottis and other structures of the larynx being implicated.

The patient is still living, the glandular infection being very considerable.

### **A Man æt. Sixty-one, from whose Left Vocal Cord a Large Epithelioma was Removed by Endo-Laryngeal Operation in 1886 and again in 1887, since which there has been no Recurrence.**

Shown by MR. MARK HOVELL. P. R., æt. forty-six, a stocker, came to the Throat Hospital, Golden Square, on March 17, 1886, suffering from severe dyspnea, caused by a large growth of a whitish color, which almost filled the larynx. He looked pale and anxious, and perspired freely on the least exertion. On March 20th, after a solution of cocaine had been sprayed into the larynx, nearly the whole of the growth was removed through the mouth with cutting forceps. After its removal was found to have been attached to the inner border and under surface of the left vocal cord for almost its whole length. When the patient left the hospital, on April 5th, not a trace of the growth remained.

After the operation the patient gave the following history:

In the summer of 1884, whilst making up the fire, he suddenly experienced, for the first time, difficulty in breathing. The subsequent attacks of dyspnea, which as time went on became more severe, used to come on suddenly and last for a few minutes. They came at irregular intervals, sometimes two or more in a day, and at other times only one or two during the week. He went to the Westminster Hospital at the beginning of 1885, and there saw Dr. de Havilland Hall, who wished him to become an in-patient; but he did not consent to this proposal until April, by which time the difficulty in

breathing had considerably increased. He remained in the hospital three months, during which time some pieces of growth were removed by Dr. Hall. He was taken by Dr. de Havilland Hall to see Dr. Felix Semon at St. Thomas' Hospital, who attempted to remove the remaining portion of the growth. He left the hospital, but was subsequently taken by Dr. Hall to see Dr. Semon again, who then recommended the removal of the portion of the larynx to which the growth was attached. To this treatment the patient refused to submit.

He returned home and resumed work, and remained at it for three weeks or a month. The difficulty of breathing then became so great that he was obliged to seek further advice, and he went to St. George's Hospital, with the hope that relief could be obtained there without operation being performed. He saw Dr. Whipple, and was made an in-patient. When he had been in the hospital about a week, he learnt that it was proposed to perform tracheotomy before an attempt was made to remove the growth through the mouth. He declined to have tracheotomy performed, and left the hospital. He then again returned to work, and remained at it until the end of 1885, when his breath was too short to enable him to continue at it any longer.

On March 17, 1886, he came to the Throat Hospital as before mentioned.

After leaving the Throat Hospital the patient was not seen again until May 2, 1887, on which date he returned, and was found to be in a condition similar to that which existed when admitted the previous year. On examining his larynx a growth was visible almost identical in appearance, as regards size, color and microscopic texture, to that previously removed. Subsequent to the second operation he told me that on leaving the hospital on April 5, 1886, he resumed work, and felt no discomfort until about January, 1887, when his breathing became a little short. The dyspnea steadily increased, and about the middle of April he was obliged to discontinue work.

As the patient still refused to allow any extra-laryngeal operation, it was decided to again remove the growth with forceps. A solution of cocaine having been sprayed into the larynx, the growth was removed as before with cutting forceps. It was tougher than that of the previous year, and had a much larger base, being attached not only to the under surface and inner edge of the left vocal cord, but also to its upper surface and to the left ventricular band. At the first operation, on May 9th, although the hemorrhage was greater than it had been on the former occasions, sufficient growth was

removed to enable the patient to breathe with comfort. Another piece was removed on May 17th, and the patient left the hospital on May 20th. The last piece was removed on June 15th, after which no trace of the growth was visible, and the surfaces from which it had been removed soon healed. The long intervals between the operations were made to suit Mr. Hovell's convenience, and were not caused by any unfavorable symptoms having occurred. On June 30th slight congestion of the larynx still remained; the left vocal cord moved but little, but the movement of the right cord was normal. His voice was strong and distinct, but slightly husky in consequence of the congestion.

The patient was examined on August 13, 1887, and there was no trace of the growth. The movement of the left vocal cord was impaired, but with the exception of slight general congestion of the larynx, and slight thickening of the interarytenoid fold, the result of chronic laryngitis, no abnormal condition was visible. The patient's voice was clear and strong, and there was no dyspnea. The patient had been employed at the gas works for twenty-one years, and the dusty work during this period would account for the chronic laryngitis.

The following microscopical report of the growth removed in 1886 was kindly made by my colleague, Mr. Frederic Eve:

"The growth removed in 1886 was an epithelioma with a markedly papillary surface. The papillæ were very long and filiform. The base of the growth, under the microscope, showed prolongations downwards of the surface epithelium. These were cylindrical, and terminated in a well-defined rounded or subdivided end. In some parts the growth of epithelium was more confused, and composed of tortuous columns or cylinders, which here contained numerous cell-nests; but these also existed in smaller numbers in other parts of the growth. The submucous tissue was nowhere present in the parts removed, but the epithelial columns forming the growth were so well defined that I do not suppose there was any diffuse infiltration of the mucosa with young epithelial cells.

"The growth removed in 1887 differed from that of the previous year in that it contained very few cell-nests, and these of small size. The epithelial columns were more confused, and their margins less well defined. Some shreds of mucosa were attached to its base. These were composed of small spindle-cells and fibrous tissue, containing elongated nuclei, and many small round or 'indifferent' cells. Looking at the matter solely from a histological point of view, I have no hesitation in expressing my opinion that the growth was an

epithelioma. This is based on the extensive and characteristic ingrowth of epithelium, the presence of cell-nests, and the general appearances of the neoplasm.

"P.S.—I have formed an impression that epitheliomata are less highly malignant if distinctly warty or papillary on the surface; whilst, when the opposite condition exists and the surface is flat or ulcerated, the infiltration below is wider and more diffused, and the growth more malignant. As examples of comparatively lowly malignant warty epitheliomata, I may mention chimney-sweep's cancer of the scrotum, and the epithelioma following ichthyosis of the tongue. This may account in some measure for the successful issue of your case."

Mr. Hovell, in conclusion, said that, although the attempt to remove an epithelioma from the larynx by means of forceps was not a procedure which in an ordinary case would be entertained, or, if undertaken, would in the large majority of cases have any chance of success, yet exceptional cases must be dealt with in an unusual manner.

MR. DE SANTI said that he was extremely interested in the history, the line of treatment and the result of this case. What one had to consider in the matter was, firstly, the microscopic appearances of the sections submitted to the meeting; and, secondly, the clinical features presented by the history given. Mr. de Santi had very carefully examined the microscopic sections, and must state that he could not find in their appearance anything whatever pointing to epithelioma. The drawing shown was a very artistic one of a perfect epithelial cell-nest, but in no part of the sections could he find anything even like an imperfect cell-nest. Moreover, cell-nests might occur in growths that were not epitheliomatous. He felt certain that as regards the microscopic appearances the diagnosis of epithelioma must be considered non-proven. Again, looking to the clinical aspect of the case, the time over which it had extended, together with the great size of the growth, as shown by the drawing, was quite unlike any epithelioma he had ever seen or heard of. If the growth had been malignant and had existed as long as stated, there must have been extensive infiltration at its base, and no endo-laryngeal operation could possibly have eradicated the disease as the disease had been eradicated in this instance. Neither, therefore, did the clinical features or the microscopic appearances warrant the diagnosis of epithelioma, and in Mr. de Santi's opinion this conclusion was more than supported by the result obtained by the removal of the growth by endo-laryngeal forceps. In his opinion the growth had been of an innocent nature throughout.

SIR FELIX SEMON declared his entire agreement with the remarks of Mr. de Santi. It would not be expected of him, after the lapse of fifteen years, that he should recollect the case, and indeed he frankly confessed that he had no recollection whatever of it. What he was



going to say would be based only on the drawing which Mr. Hovell had shown to the Society, on the microscopical appearances, on the clinical features of the case, and finally on the present appearance of the patient's larynx. From all these points of view he could not help confessing that the case was a mystery to him. To begin with, he could not reconcile the idea of malignancy with the clinical appearance as now presented. We were taught—and his own experience corroborated it—that the difference between a benign growth and a malignant growth was that a non-malignant growth sprouted from the *surface*, while the malignant infiltrated the *tissues*. How then could an infiltrating growth be removed so thoroughly that no recurrence had taken place, whilst the larynx, as at present seen, showed not the least trace of any operation having ever been performed? He did not wish to be misunderstood, and he wished to say distinctly that he did not deny the *possibility* of removing a malignant growth from the larynx by endo-laryngeal operation. Quite a number of cases of that sort were now on record. Perhaps some of the older members of the Society might remember a letter which he had written to the *British Medical Journal*, on June 4th, 1887, in reference to the case of the then German Crown Prince, for the purpose of warning laryngologists against subordinating clinical apprehensions to the report of the microscopical examination. But in that letter he himself had described a case on which involuntarily he had performed a radical intra-laryngeal operation. It was the case of an old gentleman, aged seventy-five, who had a suspicious-looking wart on one vocal cord. He had only wished to remove a piece for microscopical examination. However, as every laryngologist of experience knew, intra-laryngeal operations were after all more or less of a fortuitous character, and by an exceptional piece of luck he found he had removed the *whole* growth. Mr. Shattock made transverse sections through the whole growth and its base, and it in part bore the characters of a typical cornifying epithelioma. The patient in question was now alive, although more than ninety years of age, and about six weeks ago he actually preached at a wedding! It was well known to the Society that his friend, Professor Fränkel, of Berlin, had made himself the champion of the intra-laryngeal method of removing a malignant growth in suitable cases, and there were now, as he had said before, a number of well-authenticated cases on record in which the proceeding had been successful. But he could not understand, in spite of this, how after removing an infiltrating growth from the larynx, particularly of the size of the one shown in Mr. Hovell's drawing, it came about that one could not detect the slightest evidence of its former presence and of its removal. Now there was no sign whatever in the larynx of Mr. Hovell's patient to show that a large epithelioma had been removed. If he were asked at the present moment in a court of law to state on oath from which vocal cord the growth had been removed, he would have to confess his inability to tell, and he would have to say it looked as if nothing had been removed. So clinically he must confess the case beat him altogether. Further, he had seen

a good many cases in which there was for some time a considerable arrest in the progress of a malignant growth, but for this to happen for *several years*, during which there was practically no progress observed in the size of the growth, surely was most unusual. He was not one who did not believe in things for the mere reason that he himself had not seen them; but he found it difficult to understand an arrest of this kind. Again, from a careful examination of Mr. Hovell's own drawing of the growth, it looked to him much more like a large papilloma springing from the anterior commissure of the vocal cords than like a growth, benign or otherwise, springing from one of the vocal cords. If this surmise of his should be correct, then they would have a perfectly natural explanation of the present appearance of the case. He had once himself removed a very large papilloma looking exactly like the growth shown in Mr. Hovell's drawing from the anterior commissure of the vocal cords of a lady aged forty-eight. The specimen was at present in the museum of St. Thomas's Hospital. With regard to the microscopical appearance, he had looked very carefully, but could not see anything in the specimen typical of epithelioma. He willingly admitted that it was an old specimen, and therefore it might not be so characteristic as it originally had been. He had asked Mr. Hovell if he would consent to more pieces being examined by the Morbid Growths Committee. He hoped it would be the general opinion of the Society that such an unusual case should be submitted to this examination. In conclusion, he wished to say that nothing had pleased him more than Mr. Hovell's final observations to the effect that this was an unusual case, and therefore had to be dealt with in an unusual manner. If the man absolutely refused to have the growth removed in the way which was in accord with the progress of modern scientific surgery, *i. e.* by external operation, then under such circumstances an intra-laryngeal operation was permissible; but he strongly hoped that a case of this sort would not be made the starting-point for further intra-laryngeal operations in cases of suspected or proved malignancy. These remarks were analogous to those he had made at the last meeting in the discussion of the value of injections of iodine or iron in cases of goitre. At a time when one had not a better, such methods were both valuable and permissible, but the operator should keep pace with the progress of surgery; and so he was particularly delighted to hear Mr. Hovell say that under normal circumstances he would recommend the extra-laryngeal operation. With this sentiment he entirely agreed.

The PRESIDENT, in commenting on this interesting case, thought Sir Felix Semon's proposal of re-examination of the tumor by the Morbid Growths Committee was a valuable one, and ascertained from the meeting that it would be its wish to adopt it. He said the larynx at the present moment showed so little change that it was difficult to imagine that any malignant growth had been removed.

MR. VINRACE wished to ask Mr. Hovell whether from first to last he had observed any lymphatic enlargement in connection with this growth?

MR. MARK HOVELL, in reply, said he had not troubled the Society with the full notes of the case, and therefore had not mentioned the attachments of the growth at the time of the first and second operations. At the first operation the growth was attached to the inner border and under surface of the left vocal cord along its whole length. At the second operation the growth was much tougher, and it had a much larger base, being attached to the whole length of the under and upper surface, and inner edge of the left vocal cord, and to the left ventricular band. As regards the portions of the growth which he exhibited, he should be very happy for the Morbid Growths Committee to have a portion of each for further examination. He reminded the meeting that Mr. Eve, who had made his own sections, had definitely stated that the growth was an epithelioma. With regard to the mobility of the left vocal cord, the movement was impaired after the first operation, and had remained so since. In reply to Mr. Vinrace, he did not recollect any lymphatics being enlarged.

**Female, æt. Fifteen, with Absorption of the Cartilaginous Septum due to Pressure from Nasal Polypi.**

SHOWN BY DR. FREDERICK SPICER. The patient came under observation some months ago with both nostrils completely obstructed with polypi, on the removal of which the cartilaginous septum was found to have been absorbed, and the nose disfigured, but there was no perforation.

The case was shown in order to obtain the opinion of others as to its causation; but Mr. Spicer ventured to describe it as above, firstly, because he believed the usually recognized sources from which this trouble arises have been eliminated; secondly, on account of the history, and, thirdly, because of the totally blocked condition of the nose when first seen.

There was no family history of syphilis, scrofula or injury.

The first indication of anything wrong was the appearance four years ago of what she called "a pimple" upon the bridge of the nose, from which matter came; this was accompanied by a discharge of pus from the nostrils, and was of sufficient import to require the assistance of a doctor. It only lasted a few days.

THE PRESIDENT understood that this case had been brought forward with a view to eliciting an opinion as to whether the absorption was really due to pressure from the nasal polypi. It was evidently a case of nasal polypus with disease of the ethmoidal, and possibly of other, sinuses. He should hardly say that absorption of the cartilaginous septum was due to pressure, but more likely to some abscess in the septum, and he would like to ask Dr. Spicer whether he had observed at any time in this case an abscess in this position.

DR. FITZGERALD POWELL had seen a case under treatment very similar to Dr. Spicer's, in which there had been an abscess of the

septum, which pointed, and was opened at the anterior margin of the septum. The cartilage had entirely fallen away from the nasal bone. There was considerable thickening or broadening of the latter, the result of ethmoiditis. The exciting cause was said to be traumatism. The case was improving, and, if possible and agreeable, he would show the patient at a future meeting as an interesting comparison with the present case.

MR. NOURSE thought that an interesting point in this case was the actual cause of the falling in of the nose; was it due to the absorption of the septal cartilage or to some further injury? He recollected a case he saw at the hospital a short time ago, where the only remaining vestige of the division between the two nostrils was the little columella; the septum, bony and cartilaginous, having entirely disappeared, and yet the nose was perfectly straight and without deformity externally. It struck him in this case that possibly, although there had been disappearance of the triangular cartilage, the falling in was due to the absorption of the lateral cartilages, with consequent breaking of the cartilaginous arch.

DR. SCANES SPICER thought that this was a case of old septal abscess in which the upper lateral cartilages had been destroyed by the suppuration, and that the deformity was characteristic of that condition. In his experience, traumatism and syphilis were the commonest forerunners of these septal abscesses.

DR. ST. CLAIR THOMSON thought that Mr. Nourse's explanation might read entirely the other way. He agreed with the President that the broadening was due to starting ethmoiditis, and that the most likely explanation was that the patient had had an abscess of the septum. He had made reference on a previous occasion to a case in which an abscess in the septum—not traumatic—occurred in the course of suppurative disease of the antrum. Of course they all knew of cases like that mentioned by Mr. Nourse, where the whole cartilage might be absent, and yet there was no falling in. But if the cartilage was absent through an abscess, the consequent contraction of the cicatricial tissue explained the dragging down of the bridge and the deformity of the nose. In this patient, if the nose was grasped from side to side and compared with one's own nose, it became very evident that there was a large defect of the quadrilateral cartilage of the nose.

THE PRESIDENT thought Dr. Thomson's explanation the correct one, *i. e.*, the occurrence of contraction of the cicatrix after absorption of the cartilage.

#### **Case of Unusual Laryngo-Pharyngeal Tumor in a Woman, with Microscopic Specimen of Growth Removed.**

Shown by DR. LAMBERT LACK. This patient was shown at the last meeting of the society. The advice given on that occasion had been very carefully considered, but, after some hesitation, the exhibitor had preferred to perform an external operation, so as to thoroughly examine the growth and its attachments, and to see

exactly what steps were necessary to completely extirpate it. An incision some four inches long was accordingly made in the anterior triangle of the neck, the sterno-mastoid muscle and the large vessels drawn outwards, and the lateral pharyngeal wall exposed. A linear incision was then made into the pharynx, and the larynx hooked forward so as to thoroughly expose its posterior wall. The growth was soft and nodular, about the size of a pigeon's egg, and attached by a broad base to the mucous membrane over the cricoid cartilage. The mucous membrane was divided all round the growth, and it was then dissected off the larynx. The wound in the mucous membrane of the larynx was closed with a few catgut sutures. The wound in the pharynx was then closed by a row of closely placed fine sutures uniting the edges of the mucous membrane, and the pharyngeal aponeurosis was also carefully stitched up. A large drainage-tube was inserted into the wound in the neck, and the skin wound closed by silk-worm gut sutures. Just before opening the pharynx, a laryngotomy was performed as a precautionary measure, but it was really not needed, and the tube was removed next day. The after history was uneventful.

DR. JOBSON HORNE has made sections of the growth, which he reports to be a mixed-cell sarcoma.

SIR FELIX SEMON suggested that this specimen should be submitted to the Morbid Growths Committee. He did not pretend to be a great histologist, but to him the section of the tumor looked more like a fibroma than a sarcoma, and he would like to have the opinion of the Morbid Growths Committee. Under all circumstances, Dr. Lack must be congratulated on his most successful operation.

DR. STCLAIR THOMSON asked if Dr. Lack intended publishing the case in full in the "Proceedings;" if not he would like to have a few particulars as to whether it was necessary to put temporary ligatures round any of the arteries; as to whether he had experienced any difficulty with bleeding or breathing, and as to what steps were necessary in turning round the larynx.

DR. LAMBERT LACK said there was no difficulty with bleeding, as the large wound exposed the whole field of operation to view. Consequently there was no necessity to put temporary ligatures round any of the large vessels. Such a proceeding was only necessary when operating in the pharynx through the mouth, where it would be impossible to pick up any large vessel which might be cut.

#### **Specimen of Bony Occlusion of One Nostril.**

Shown by DR. LAMBERT LACK. The specimen was obtained whilst dissecting, and no history was obtainable.

#### **Specimen of Multiple Papilloma of Larynx.**

Shown by MR. H. W. CARSON. The specimen was removed post mortem from a female child *æt.* two and one-half years, who

had died suddenly of asphyxia. There was a history of orthopnea and dysphonia from birth. The specimen showed well-marked papillomatous growths in the region of the vocal cords, and a subglottic extension on the anterior wall.

#### **Case of Pachydermia Laryngis.**

Shown by MR. CHARLES A. PARKER. This patient had been shown to the Society about two years ago, when it was thought by some to be of a tuberculous nature. Since then no evidences of tubercle had been discovered. The local condition was practically unchanged, in spite of various methods of treatment.

The PRESIDENT said he understood that the condition had existed for three or four years without much improvement.

DR. JOBSON HORNE considered the condition was typical of pachydermia laryngis verrucosa, and agreed with Mr. Parker that tuberculosis was not a factor in its causation. Dr. Horne was not in favor of any local treatment of a surgical nature.

MR. DE SANTI was of opinion that in this case the line of treatment now should be to leave the man quite alone.

MR. PARKER, in reply, said he showed the case chiefly because on the former occasion it was thought by some members to be tubercular, and he was then asked to bring it forward again. He did not think there had ever been any evidence of tubercular disease. For the last nine months no treatment had been attempted.

#### **A Case of Tumor of the Base of the Tongue in a Young Female.**

Shown by DR. DUNDAS GRANT. This case was shown with the object of gaining from the members of the Society opinions as regards both diagnosis and treatment.

MR. DE SANTI considered this case to be one of extensive sarcoma of the base of the tongue. The feel of the tumor, its irregular surface, the absence of ulceration, the age of the patient, and the history, all pointed strongly to its malignant nature. Moreover, a large piece of the growth had been removed a year ago (unfortunately he understood this piece had been lost, and therefore not submitted to microscopic examination), and had been followed by a rapid and considerable extension of the tumor. The patient he noticed had enlargement of the submaxillary glands, and this was far from uncommon in sarcomata of this neighborhood. A piece of the growth should be removed and submitted to a skilled pathologist for microscopic examination, and the case dealt with surgically.

DR. LAMBERT LACK had under his care at the present time, a young girl æt. nineteen, presenting some features very much like this case. The tumor was a smooth one with large vessels coursing over it, and he was under the impression that the growth was a thyroid tumor. He would not, however, like to give that diagnosis in the present case, unless some of the ulceration seen was due to the removal of pieces by Dr. Grant.

**A Case of Ulceration of the Tip of the Tongue in a Man æt. Fifty-Two. For Diagnosis.**

Shown by MR. ATTWOOD THORNE. The patient had complained of some pain for the last year. Mr. Thorne only saw the patient ten days ago, and he then at once put him on iodide of potassium, grs. 10 three times a day. There was, if anything, a slight improvement. He asked whether it was epithelioma, syphilis, or tubercle? The tongue was slightly fixed.

The PRESIDENT advised that the iodide of potassium be pushed.

MR. MARK HOVELL suggested that a piece should be removed and submitted to the microscope.

DR. STCLAIR THOMSON said syphilitic disease was certain, and malignant possible. In all cases where there was any doubt it was the rule to treat the case on anti-syphilitic lines. He had once had a patient who was condemned to have his tongue removed by a leading authority on syphilis. That patient was afterwards shown as having been cured of cancer by Mattei's remedies. Mr. Thorne would be well advised to take no further measures until inunctions of mercury had been given a good month's trial.

MR. DE SANTI considered this case to be epitheliomatous rather than syphilitic. There was marked induration at the base of the ulcer; the ulcer itself was raised and warty, not depressed and punched out, and it rubbed distinctly over the lower incisor teeth. There was a little limitation of movement, and some slight fulness in the sub-maxillary region. It was an uncommon situation for a gumma, but no so uncommon for epithelioma.

DR. LAMBERT LACK said that Dr. Thomson had exactly stated his views when he said it was certainly syphilis and quite likely epithelioma, but he disagreed entirely with his suggestions as to the course to be pursued. Dr. Lack thought it was very wrong to put a case of suspected epithelioma in such an accessible region on a course of iodide of potassium, and more especially to give him a month's course of treatment by mercurial inunction when the diagnosis could be immediately made by removing a small piece of growth for microscopical examination. Should the case be malignant, the danger of such a long delay was obvious.

MR. VINRACE wished to ask whether Mr. Thorne had noticed any fixation in the tongue. He asked if there were any infiltrations, other than those of a malignant nature, which impaired the movements of the tongue.

MR. THORNE, in reply, said that he would remove a small portion for examination, and would order mercurial inunctions, and hoped to report on the case at a future meeting.

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